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The Action of Morphine and of Opium on Domestic Animals*

By PROFESSOR A. VANDEN EECKHOUT

A Lecture with Demonstrations Given to the Society of Veterinary Medicine of Brabant, France, July 3, 1910

OPIUM has been known and used from remote antiquity down to the present time. The ancient Hindoo books on medicine speak of it. It was known by Egyptians and Greeks. It was used during the Middle Ages and it made up the base of the famous theriac compound. It enters also into the composition of Sydenham's laudanum, which we still use, and which dates from the eighteenth century.

Morphine is the principal alkaloid of opium. It was isolated about 1810 by Serteurner. Its chemical formula is $C_{17}H_{19}NO_2$ but its exact structural formula is not known. Its use became universally extended about 1850.

Up to the present time about twenty alkaloids have been isolated from opium, the principal ones being morphine, codeine, narceine, narcotine, thebaine, and papaverine. Some of its products are narcotic while others are excitants and even convulsives and one, papaverine, is cataleptic.

Here is as a curiosity—a rabbit which has received some papaverine and which is in the cataleptic state. This animal makes no spontaneous movement and keeps the same position which you may give it, provided you respect its equilibrium. Yet this is not anesthesia, for the muscular tonicity is conserved and its sensibility persists.

With the exception of morphine all those alkaloids are found in opium in but very small quantities, so that the action of opium has but a slight difference from that of its principal alkaloid.

Although opium and morphine have been the objects of numerous researches, yet their study is far from being concluded, although their therapeutic indications are pretty well fixed, especially in human medicine. In man morphine calms pain, produces sleep, moderates the respiration, quiets the intestines and produces constipation.

But all these effects are not observed in animals; the action of morphine on man differs from that on the animal and differs variously according to the species of the animal, yet in all it has an elective action on the brain, on some centers of the medulla oblongata, on the spinal marrow and on the intestines. But the action which morphine produces in these organs varies according to the kind of animal.

Formerly it was believed that morphine is oxidized in the system and is eliminated in the form of an oxydomorphine. We know now that nearly all the morphine introduced into the organism, whether it be by the digestive canal or hypodermically

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is excreted unchanged by the glands of the stomach and intestines and is eliminated with the excrement. We can always find 80 percent of the morphine administered in the feces. The morphine which is excreted unchanged by the stomach may be absorbed again by the intestines.

Two facts result from this observation: (1) That we can act locally on the intestine by administering morphine hypodermically; (2) in case of poisoning with morphine it is best, as far as possible, to neutralize or to eliminate it by way of the stomach, and so prevent its later reabsorption by the intestines. We should therefore wash the stomach repeatedly, give purgatives and also administer at intervals a weak solution of permanganate of potash, which oxidizes the morphine.

Action of Morphine on Frogs

In all animals morphine exerts a specific action on the brain, but this varies considerably with different kinds of animals. In man it produces narcotism, and also in the dog, the rabbit, the guinea-pig, the mouse and the frog; but the contrary effect, that of excitement, is produced by morphine on the horse, cattle, the sheep, the swine and the cat.

You see here under the bell a normal frog. When I give the plate a rotary motion the frog turns its head in the contrary direction; when I excite the animal it jumps and saves itself; if I place it on its back it returns immediately.

On the other hand you see here a series of frogs all of which have had morphine and all are under its influence.

Notice the first subject. It no longer makes any spontaneous movements; it shows no tendency to run away; it does not turn its head in the contrary direction to which I turn it; and the animal behaves the same way as does a frog from which the brain has been removed. It has retained its reflexes, and when I excite it it runs away and you may observe that its movements are coordinated, that only its cerebral hemispheres are affected.

Now observe the other frogs. This one still runs when I excite it, but its movements are incoordinated; it crawls but does not jump; it still turns over again when I place it on its back. But that other frog does not turn over, and its respiration is arrested. In all these frogs the reflexes of the spinal cord are preserved.

Morphine, we therefore see, does narcotize the frog. It acts first on the cerebral hemispheres, then the action extends to the other parts of the encephalon, to the corpora quadrigemina, the cerebellum and the medulla oblongata, and all its centers become paralyzed, one after another.

Action on Rabbits

We now pass to the rabbit. This animal is also asleep. Here you see one which has received morphine and lies stretched out all its length. Its head is not held up but it lies quietly on the ground. If I put it on its side it retains this abnormal position and does not right itself, as does this control rabbit. Its general sensibility is dulled but is not totally abolished, as it would be under the influence of chloroform. Morphine sleep is analogous to profound normal sleep and the animal awakes when it is excited, lively, but soon falls asleep again. The auditory sensibility persists also.

A Somnifacient for Dogs

On the dog morphine acts also as a hypnotic, but it rarely comes to a complete sleep. Certain dogs, however, do fall into quite deep sleep, especially when they are placed in a quiet, retired corner, yet this is exceptional. Generally speaking, such dogs as I show you here fall simply into a state of stupor and somnolence. The dog shuts its eyes as if to sleep, but it quickly wakes up and changes its place and lies down again to sleep. During this period of torpor the dog has hallucinations; it cries, and barks and changes its place frequently. Its auditory and general sensibility are intact, and, as you see, the dog rises when I strike him and even when I excite him with my voice. Its walks is peculiar, the hind legs being constantly semiflexed, so that it walks hyena-like.

Excites the Cat

Let us examine now the action of morphine on the cat. Here the picture is altogether different. We have no narcosis

here but on the contrary the phenomena of excitement. Look at these two subjects, each one of which received morphine hydrochloride hypodermically. They are highly excited and are constantly on the move. Now they throw themselves against the sides of the cage as though they wanted to run after some imaginary object, and then again they roll themselves and seem to experience a great deal of pleasure, and at times they rise and move their paws about like a cat playing with a mouse. Here is nothing that would remind us of what we have noticed in the hare and the dog.

Peculiar Action on the Horse

Lastly let us show how morphine acts upon the horse. Small doses produce on this animal no well-marked phenomena, but doses somewhat larger produce excitement.

Look at these two subjects: One had received 50 centigrams (grs. 7 1-2) and the other one Gram (grs. 15) of morphine hydrochloride hypodermically. These animals are excited, their eyes are bright, their ears erect; they move about constantly, either turning about where they are or pushing against the wall; they paw with their feet and neigh. Their walk is stiff, the joints hardly flexing. The general sensibility is intact and they react readily when they are pricked in any sensitive region.

An Intoxicant for Man

These experiments prove that the action of morphine on the brain varies considerably with the kind of animal; but that is not all, the action on the same animal species varies also according to the size of the dose administered. The effects of small, medium or large doses are best studied on human beings, who can inform us of the subjective feelings which they experience.

In man, small doses of morphine produce a certain sense of comfort and remove all disagreeable sensations. This altogether subjective effect eludes all experimental control.

This explains the use of opium by Orientals, who expect from it intoxication, pleasant dreams and phantasmagoria. The morphinomaniac after an hypodermic injection of morphine experiences a sensation of comfort, because of the disappearance of all sensations, agreeable and disagreeable, normal and abnormal, such as those of cold and heat, and hunger and fatigue.

Is this sensation of well-being present in our animals also? Probably yes. The dog and the cat have hallucinations, and the cat rolls and plays with its paws, and seems to pursue an imaginary mouse. It is possible that this sensation of comfort exists in the horse, too, and this seems to result from what certain clinicians have told us, that vicious and nervous horses are often calmed after an injection of a small dose of morphine. But I hasten to remark that this is not the general rule, for most bad horses become more excited after a morphine injection.

Analgesic Action

Medium doses of morphine influence first of all the functions of the cerebral cortex and act more especially on the sensitive centers. It suppresses in man all slight pains, but the severe pains, such for instance as those caused by cutting instruments or by very painful inflammations, are perceived yet.

Seeing, hearing, and association of images (ideas) are intact.

The principal phenomenon which we observe here is the suppression of slight pain, and for this reason morphine is used in all cases where insomnia is caused by excitement and suffering. Morphine, in medium doses, does not put a man to sleep but it quiets his pain which keeps him awake and sleep comes about indirectly. Morphine produces euphoria, hence its use in cancer, tuberculosis, etc.

Does a medium dose of morphine act on animals in the same way, i. e., by suppressing pain and procuring euphoria? It may be difficult to answer this question, because it concerns a subjective sensation, and an animal generally does not manifest a feeling of pain before it becomes very vivid, yet judging from what we observe in animals under great pain, we are induced to say that morphine does calm pain in

the dog but does not do so in the horse, nor in bovines, nor in the cat.

Effect of Large Doses Varies With the Animal

Lastly, morphine in large doses produces profound sleep in man and sensibility is apparently totally abolished.

In our domestic animals the reaction is altogether different.

The dog reacts to morphine nearly like man. He falls asleep, but the sleep is less profound; he awakes at times, barks and falls asleep again; his sensibility is quite dulled and he frequently lets himself be operated upon without manifesting any pain.

In the horse we observe nothing of this kind. This animal never sleeps under the influence of morphine and remains always sensitive to a prick and a cut of the knife, and often the morphine seems to augment the sensibility, as in the case I show you here.

We have injected morphine experimentally in twenty horses, and all of them have reacted like normal animals, and at times quite decidedly. We believe, therefore, that we are entitled to say that morphine is not a central analgesic for the horse, whose vivid pains it does not calm.

Summary

Recapitulating, we say: Morphine exercises in all animals a specific action on the brain. In some it produces sleep, while in others, on the contrary, it produces excitement and a kind of inebriation, and in all it seems to produce a feeling of well-being and causes the disappearance of disagreeable sensations.

Morphine is not, however, a central anesthetic in the same sense as chloroform. In the animals which it puts to sleep, it dulls profoundly the sensibility to a point that they are very frequently able to endure the acute pain caused by the surgeon's knife, while in the animals which morphine does not put to sleep it does not suppress the perception of pain.

Inhibits Vomiting

Let us see now the action of morphine upon some centers in the medulla. Injections of morphine produce vomiting frequently in the dog and the cat, which is due to a direct excitation of the medullary center. This center is first excited, but becomes paralyzed by the further absorption of more morphine, and the vomiting stops. Therefore, in poisoning with this alkaloid, emetics are contraindicated.

Heart Stimulant in Horses

Small and medium doses of morphine produce more energetic contractions of the heart and a slowing of the pulse. Morphine is a heart calmant. Large doses produce an acceleration first and then a progressive abatement of the heart beat. In the dog, also, the pulse is slowed—by action on the center of the pneumogastric. Contrary to this, in the horse we have always observed a strong and accelerated pulse, even after the administration of small doses.

Lessens Respiration in all Animals

Lastly, morphine slows the respiration in both man and beast and does so even with small doses of the alkaloid, owing to a direct intoxication of the medullary center of respiration, which ceases to respond to the venosity of the blood. Animals which have received morphine have their arterial blood much darker than that of the control animals, and yet their respiration is slowed. This slowing is demonstrated easily by making the animals respire by a spirometer before and after the injection of morphine. Here is a tracheotomized rabbit. It inspires the air through a Mueller valve and expires the air into this gasometer. The gasometer shows the animal to expire normally 370 cubic centimeters per half minute. We will now inject into this animal two centigrams (1-3 grain) of morphine and have another reading of the gasometer after a quarter of an hour; we shall find the quantity of air expired considerably diminished. [The gasometer showed at that time fifty cubic centimeters of air expired per half minute.]

Action of Morphine on the Spinal Cord

A medium dose of morphine acts but slightly on the spinal cord. A little larger dose excites this organ and may even provoke a veritable tetanus, like strychnine.

This tetanizing action is in proportion to the animal's zoological scale. Fishes never sleep, but manifest tetanic phenomena always. The frog enters the tetanic state very readily; the brain sleeps and the spinal cord is excited. The frogs which I show you here have not yet well-pronounced tetanic symptoms, the injections having been made somewhat tardily, yet some of them already show a notable increase of reflexes.

In the dog after he awakes we notice at times periods of excitement, with tetanic spells.

In the horse we find stiffness of the limbs and fibrillary contractions in various groups of muscles (patellar), contractions resulting from the excitation of certain medullary centers.

Lastly, in infants in whom the cerebral functions are but little developed we get from morphine at times tetanic convulsions, instead of sleep, wherefore it is so dangerous to administer morphine to an infant.

Resume

In resuming, we may say that morphine influences the brain according to the species of the animal; it tonifies the heart, calms the respiration, and excites the spinal nervous apparatus. Morphine also exercises a very important and specific action on the digestive tube; it diminishes the intestinal secretions and induces constipation in animals; it moderates or arrests intestinal peristalsis and puts the intestines to rest. This last action is very manifest in man.

Effect on the Intestinal Canal

With the stomach it is the contrary; far from being subject to the same influences from morphine, just mentioned, there is a tendency for its peristaltic movements to become rather exaggerated.

The action of morphine on the alimentary canal has not been explained as yet. Some presume a diminution of the excitability of the pneumogastric terminals, and of the sensory terminals in the walls of the intestines; others believe that the intestinal repose caused by morphine is the result of an inhibitory phenomenon exerted on certain medullary centers. Be this as it may, one thing is established, that morphine constipates.

Magnus and Zunz have of late, from their experiments on dogs, interpreted morphine constipation in an altogether different way. They have noticed that in dogs morphine produces a spasmodic contraction of the pyloric sphincter and that it retards considerably the passage of food from the stomach into the intestine. The authors claim, therefore, that this constipation is due, above all things, to pyloric contraction and to too prolonged stay of the food in the stomach.

But what these authors have observed in the case of dogs is not sufficient to explain morphine constipation in other animals, and especially in the case of the horse. We know that in the horse the stomach plays but a secondary part in the phenomena of digestion, comparing the stomach with the intestinal tract.

The stomach of the horse is not very voluminous, considering that it empties itself several times during a meal. Its capacity is about the twentieth part of the capacity of the intestines and the food that passes it very rapidly takes between three and four days to pass the whole length of the intestines. A medicament therefore which acts principally on the stomach and the pyloric sphincter, and which does not act on the intestines, would hardly be able to produce constipation in the horse.

Constipates all Animals

We have made a series of experiments on this animal and have found that morphine, or a preparation of opium, is always followed by constipation more or less pronounced, in the sense that the quantity of dung diminishes during the first twenty-four hours.

	Weight of Feces in 24 Hours
Nov. 30, 1909	4650 Grams
Dec. 1	5450 "
Dec. 2	5550 "
Dec. 2, gave hypodermic injection of 50 cubic centimeters of tincture of opium.	
Dec. 3	4100 Grams
" 4	7000 "
" 5	6100 "
" 6	8000 "
" 7	7350 "

Dec. 7, hypodermic injection of 50 centigrams of morphine hydrochloride.

Dec.	8	4700 Grams
"	9	7550 "
"	10	7650 "

Dec. 10, hypodermic injection of 50 cubic centimeters of tincture of opium.

Dec.	11	4800 Grams
"	12	9750 "
"	13	8750 "
"	14	7550 "
"	15	8000 "

Dec. 15, hypodermic injection of 50 centigrams of chlorhydrate of morphine.

Dec.	16	7050 Grams
"	17	10100 "
"	18	7750 "

I would only add that the horses experimented upon have received every day the same rations exactly weighed, that the animal took up the entire rations on even the days when they received the hypodermic injections of morphine; that the dung obtained daily was collected on the same day and the weight of it was ascertained after having been dried for not less than one month at the ordinary local temperature.

From these entire experiments I drew the following conclusions:

(1) Morphine and opium constipate the horse as they do other animals.

(2) From the anatomical disposition of the digestive canal of this animal it is probable that morphine acts principally upon intestinal peristalsis.

(3) The mechanism of the arrest or diminution of this peristalsis is as yet unknown.

(4) That morphine which constipates the horse by diminishing his intestinal peristalsis may be indicated in certain forms of colics, especially when these are accompanied by diarrhea and characterized by an exaggerated intestinal peristalsis.

Morphine and Opium Compared

To obtain the constipating effects it is preferable to make use of opium and its preparations such as Sydenham's tincture of opium rather than of morphine and its salts.

It is a fact resulting from experiments which I carried on in collaboration with Prof. Gottlieb of Heidelberg that the tincture of opium from which they used formerly to extract all the morphine contains a constipating action of the same virtue (*au meme titre*) as this alkaloid, or in other words all the constituents of opium minus that of morphine constipate like this last product and the simple tincture of opium has an action twice as constipating as a quantity of morphine which the tincture contains.*

Lastly, let us discuss poisoning with morphine and the means of combating it.

The toxicity of morphine increases in proportion to the degree which the intoxicated animal holds in the zoologic scale; it takes as much morphine proportionately to poison a frog as it does to poison a human being.

Antidotes

When morphine has been absorbed it is almost always useless to give emetics, which can not act because the medullary centers have been paralyzed.

Repeated washings of the stomach should be made and neutralizing substances such as potassium permanganate should be given by the mouth, and also mild purgatives, such as castor oil. The patient should be kept in a rather warm place to avoid chilling the congested skin.

Cardiac stimulants should be given when the heart becomes feeble; artificial respiration should be resorted to whenever it becomes necessary; and lastly atropine should be injected, hypodermically, in small doses. Although atropine is as much an hypnotic as morphine, still it produces an action on the respiratory center absolutely contrary to that of morphine, exciting that center and arousing the individual put asleep by morphine. It acts also on the pneumogastric and aids the heart's action.

Conclusions

What is the therapeutic value of morphine in veterinary practice?

In the dog it is indicated as a hypnotic, as a pain calmant, as a moderator of respiration, to check bowel action and as a calmant of the intestines, in the same way as it is used in man.

*See B. Gottlieb und A. Vanden Eeckhout, Ein Beitrag zum Vergleiche der Opiums- und Morphinwirkung, Schmeideberg's Festschrift, 1908, p. 235.

In the cat it is indicated in small doses as a constipant.

In the horse it may be used in calming certain vicious and especially excitable animals, but its action is uncertain. Lastly it may be used in the horse as a constipant and calmant of intestinal peristalsis in certain forms of colics and inflammations, when it is desirable to put the intestine to repose. It is on the contrary contraindicated in most cases of colic, as in colic from indigestion, from constipation, from volvulus, from gases, in all which cases evacuants are indicated. It is not useful for procuring hypnotic or analgesic effects, yet it may be used, nevertheless, as an anesthetic with satisfactory results in some cases.

Infection With Bacillus Aerogenes Capsulatus*

By S. A. DEMING, M. D. C., Ida Grove, Iowa

I WAS called to see an iron-gray mule, weighing 1200 pounds, fifteen years old and in excellent condition, and surroundings good. The following history was obtained:

This mule did not work up to suit his driver, when pulling a heavy load, and he was struck across the hips several times with a piece of board picked up from the ground near by. This occurred on Thursday afternoon of October 12. He worked the remainder of that day and until Saturday noon, when he was turned out to pasture until Sunday evening, when he was caught up and fed, kept in the stable over night and put to work as usual Monday morning. He worked about two hours and a rain came up; after he became wet he was put back in the stable. Nothing wrong was noticed Monday, and he ate, and apparently felt well.

Tuesday morning when the owner went to hitch up he noticed a slight swelling of the muscles of the hip, and as it was very tender to the touch and was quite hot he did not put him to work, although he was not yet lame and was still eating and feeling well. I was called and arrived there about 10 o'clock, and found the swelling had spread over the entire gluteal region on the right side and was beginning to develop on inside of thigh and in the sheath. The temperature at this time was 105° F. and pulse seventy per minute. The mucous membranes were injected and icteric. On closer examination I found there was gas in the subcutaneous tissue. I also found a puncture wound two inches deep near center of swollen area which I believe was made by a nail in the board with which he was struck.

TREATMENT: I gave a diuretic fever mixture in large doses, and a calomel-and-aloes ball, hoping thus to increase elimination, and made an incision in the swollen area five inches long and four inches deep from above downward and backwards, including in the incision the nail wound. This incision disclosed the emphysematous condition of the tissue more plainly and allowed the escape of a small amount of thin, dirty, brownish, offensive fluid. Tincture iodine was injected into the wound and surrounding tissues, and half an hour later it was packed lightly with oakum saturated with cresol solution.

I saw the animal again the next morning, and the swelling was enormous; the peri proctll tissue was so badly infiltrated that defecation was impossible, the sheath was filled, and the swelling extended along abdomen to forelimbs and upward half the length of the ribs; the temperature at this time was 105° F. and the pulse 110 per minute and very weak. I recommended hot antiseptic fomentations over hip, as there seemed to be the area of greatest swelling, and told the owner to let me

*Presented at annual meeting of the Iowa State Veterinary Association, November, 1911.

know it as soon as the mule died. That evening he sent me word that the mule died at ten o'clock and that he had buried him. I drove to his place next morning however, and after removing about four feet of earth succeeded in getting a piece of tissue four inches from the seat of the nail wound.

A microscopic examination of this tissue proved interesting, as we had no trouble in finding and recognizing what we believe to be bacillus aerogenes capsulatus. This bacillus is three and one-half microns long by three-fifths microns wide, is found in the blood and other tissues which are emphysematous due to the gas generated by it. It occurs single, in chains, and may be found in clumps; is non-motile, no flagella being described; the protoplasm does not stain evenly, dots or vacuoles showing up not heavily stained (Gram positive); only the outer margin of capsule stains and a clear area is shown around germ and the inside capsule; the capsule shows plainest in a smear from the tissue, but can often be seen when grown on artificial culture media. Some species sporulate and the spores resist dessication and exposure to air for ten to twelve months. It is anaerobic and best grown on sugar-agar and in this gas bubbles appear plentifully; its natural habitat is the soil; its distribution is wide.

Keen in his surgical work says that this germ and that of malignant 'edema belong to the same type and he describes their clinical manifestations under the same head. The most favorable conditions for development of either is a bruise sufficient to produce a blood clot in which they develop rapidly. McFarland's "Pathogenic Bacteria" describes this germ, and he mentions as symptoms of infection by it, redness and swelling of wound; rapid elevation of temperature and rapid pulse, emphysematous swelling, a discharge of a thin, brown offensive-smelling liquid and concludes by saying: "Whether fatal termination is due to presence of gas in the vessels or partly to that and partly to some toxic property it possesses, is not certain. The outset of the disease, however, would seem to lead us to believe that death is due to a toxic property.

Medicine, Its Uses and Abuses*

By T. N. SPENCER, D. V. S., Concord, N. C.

THE term medicine signifies a drug used for the purpose of healing.

This purpose is no doubt defeated a great many times by either a lack of knowledge of the action of drugs or a tendency on the part of the physician to overdo matters.

A young practitioner generally goes out from college with the idea that he can accomplish wonderful things with drugs but a few difficult cases which do not respond to theoretically specific medication and terminate fatally in spite of his efforts, soon prove to him that such is not the case, and he is at times in doubt as to the real healing properties of any medicine. The final conclusion—a correct one—generally is, that the real healing process must primarily be carried on by nature and with the assistance only of drugs. The sooner this is realized, the sooner will the physician treat his patients more successfully and at the same time be at less expense for drugs.

Nature is no doubt burdened doubly a great many times, first, by the disease, and secondly, by the drugs administered by the dutiful physician.

We practitioners of veterinary medicine claim to be allopathists, therefore reserving the right to select that which appeals to us as the best from all varieties of medicine, but personally I practice considerable homeopathy, and if occasion calls for osteopathy I respectfully refer this to my client.

*Read at meeting of the North Carolina Veterinary Medical Association, Raleigh, June 25–26, 1912.

There is no doubt great virtue in the "clean-out, clean-up and keep-clean" system in a great many conditions, but I think an error is made many times in selecting the agent to carry out this treatment.

For instance, some hold that in azoturia, arecoline hydrobromide is indicated in large doses, but I have not had good results, because if the patient is on his feet, by giving large doses of this agent the depression will cause him to go down, and that, in my opinion, is to be avoided if possible. Some advocate its use in small doses combined with strychnine, which I think is much the better plan, but even then we find certain idiosyncrasies whereby one-half grain will cause more depression than one and one-half grains in other cases. *The dosage* of any drug *should not be the amount an animal can stand without producing a toxic action, but rather the smallest that can be given and still get the physiological action of that drug.* Again, when using slow-acting purgatives great care should be taken in the matter of dosage, because if this is not carefully watched, when resolution should be in progress, the patient is suffering from super-purgation and often enteritis or laminitis is a sequel.

Certainly the most logical and scientific treatment of febrile diseases is to clean out and disinfect the intestinal canal, then turn your attention to the support of the body by giving such stimulants as will raise the opsonic index of the body, which is surely nature's method of restoring health.

In arecoline hydrobromide I have found a most valuable drug and have used considerable quantities of it, sometimes using as much as ten or twelve grains in single cases of impaction and often combining it with eserine.

My method of using arecoline in stubborn cases is to push its effect by giving grain doses, fifteen to thirty minutes apart. If after I have used four grains and less, if the depression is marked, the animal is not improved, I place him on stimulants for a few hours and repeat the above treatment.

In one case of impaction I remember of giving six quarts of raw linseed oil in connection with the arecoline, and am satisfied the patient was saved only by the drastic measure adopted. Where arecoline is causing too much depression, as is manifested by profuse sweating and muscular tremors, the patient should be given one-quarter grain doses of strychnine hypodermically and some diffuse stimulant, as aromatic spirits of ammonia, orally.

Arecoline is also a valuable agent in cattle practice, a fact which is overlooked by many.

A great many physicians, and I, as one, plead guilty, have more or less of a routine which is carried out when they are called upon to attend a case, and a great many times, especially in the busy season, this routine is commenced before a careful examination of the patient is made, and this sometimes leads to a disastrous termination that otherwise could be avoided.

I realize if we were to carry all remedies actually needed to meet every emergency, we would have a drug-store stock in our medicine case, and would then often wish for some unknown remedy, and a great many times would be tempted to try a little of each, which would no doubt evolve itself into a great calamity to our patients, and we might not be entirely safe ourselves from what might occur as a result of such a mixture.

Presumably most practitioners have certain drugs upon which they most rely, and without these, success in their estimation would be less frequent. If I were robbed of strychnine and arecoline, I would be, many times, greatly inconvenienced; however, I do not wish to infer that I use them exclusively or in all conditions, but my client is very often in possession of a small amount of strychnine upon my departure.

Eserine is a valuable agent, but the present price is somewhat prohibitive. When it is used, especially in impactions, it should be combined with pilocarpine or arecoline, to increase intestinal secretion, because in moving the dry fecal matter the intestine is apt to become irritated and cause serious trouble.

Another branch of veterinary medicine which is greatly neglected is equine anesthetics. This is the weakest place in the

practice of veterinary medicine. The anesthetics now in use are not at all practical for the country practitioner to use because generally he has no skilled help and my experience with them has been very unsatisfactory.

If we were able to quickly and easily anesthetize an animal to do a major operation it would certainly be a plain mark of distinction between the scientific man and the layman. I have tried chloral both orally and intra-peritoneally, cannabis indica, and also chloroform, but have become thoroughly disgusted with them if we expect recovery and that is what we usually strive for.

Local anesthetics are quite satisfactory; quinine and urea, many believe, surpasses cocaine, because of the prolonged effect, and as there is no undesirable after-effect. Quinine sulphate or muriate alone in four-percent solution, has proven very satisfactory in the absence of other agents.

If we gave more time and thought to the subject of equine anesthetics, I believe we would all profit by it.

New and Important Tests for Examination of Milk*

By E. KLAVENESS, M. D., Sioux Falls, South Dakota

THE first reaction and the one most often used, refers to the action of hydrogen peroxide on milk; it had long been known and you have all frequently observed how blood or pus, when brought in contact with even a small quantity of peroxide of hydrogen, will split up the molecules of said reagent and under a marked effervescence will reduce these molecules to water and free oxygen. A similar reaction takes place when we use milk in place of blood or pus, and the liberated amount of gas (oxygen) can be measured and offer a valuable guide as to the purity of the milk.

Some liberation of oxygen will always take place even when the purest of milk be subjected to the action of peroxide of hydrogen, and this process, which briefly has been designated as katalysis (superoxydasis) is due to the presence of an oxidizing enzyme that is always found in every milk and which is excreted from the living cells (leukocytes) and from certain bacteria (peptonizing bacteria, coli- and proteus-bacteria). This enzyme, which has been called katalysis, possesses the faculty of splitting up the molecule of peroxide of hydrogen into its components, water and oxygen.

*Reprint from *The St. Paul Medical Journal.*

Oxygen Liberation From Good Milk

Fifteen Cc. of clean milk coming from a sound cow will under ordinary room temperature, when treated with 5 Cc. of a one-percent solution of hydrogen peroxide, cause a liberation of oxygen to the amount of at most 25 mm. in two hours. In ordinary good and cleanly handled commercial milk at the very best, about 30 mm. of oxygen will be obtained during the same length of time. The richer in cells that the milk in question may be (colostrum milk, mastit-milk, etc.) the richer we will find this milk to be in the amount of katalysis present. Likewise do we find more katalysis in milk from women than in cows' milk.

When the milk is sterilized the katalysis has been destroyed, but should the same milk later on become infected, there will again take place a reformation of katalysis. Finally, I may mention that the heating of milk for thirty minutes to 130° F. to 150° F. will destroy this milk enzyme.

Reaction of Unfit Milk

From the many examinations so far made by means of this test it has been found that the oxygen liberation will be the largest when there happens to be some pus or blood in the milk, or when the milk

is a little old (thirty-six to forty-eight hours or more), while the alcohol test does not yet give a positive reaction. If the milk be sour it will give by the addition of peroxide of hydrogen a very rapid and large oxygen liberation. The same will happen when the milk has become contaminated during or after milking; likewise when it is collected in poorly cleansed milk pails, and finally in cases where a large number of katalysis-producing bacteria are found to be present in the milk.

Milk from cows that have recently come in is rich in katalysis, particularly as long as it contains colostrum cells. The liberation of oxygen will in these cases take place quite rapidly and may measure more than 60 mm. in one-half hour. On the other hand it has been observed that in the coldest winter months, and after a prolonged refrigeration of the milk, the katalysis is completely or partially destroyed. In septic fevers and in cases of retained placenta, or during diseases where the general well feeling of the animal is disturbed, it has also been noticed that the amount of katalysis found in the milk is greater than under normal conditions.

Decolorization Test

Besides this oxidizing enzyme of which I have hitherto spoken, it has also been ascertained that there is a reducing enzyme which is found in fresh cows' milk and in small quantities in goat milk; this enzyme is called reductasis; it has not been found in woman's milk. The characteristic features of this reductasis consists in its ability to decolorize methylenblue, litmus and indigo, also that it will transform sulphur to hydrogen sulphide. Milk which is especially rich in bacteria and cells will decolorize in the course of a few minutes to one hour, but we will consider a specimen of milk to be a good commercial article if it does not bring about this decolorization before the end of three hours.

This test is made by adding 0.5 Cc. of a methylenblue solution to a test tube containing 10 Cc. of milk, whereupon the mixture is shaken and a few drops of liquid paraffin added to it, after which the test tube is placed either in a water bath or in a thermostat at 98° F. to 100° F. By carrying out a number of these katalysis examinations in combination with the test for reductasis, it was found on several occasions that even though the number of bacteria contained in the milk was so great that the milk would become decolorized after a few minutes, no oxygen liberation would take place on any larger scale than what is common for normal milk. From this fact we are enabled to draw the conclusion that there are quite a number of bacteria that do not contribute to the formation of katalysis.

Technic of the Test

Any milk that will give an oxygen liberation of 35 mm. within two hours when submitted to the katalysis test, should be further examined and more especially be submitted to the leukocyte test, and as the easiest and speediest of these tests I would recommend the one used by Prof. Trommsdorff, at Munich. He uses especially made test glasses, into which the milk is poured up to a certain mark indicated on the glass, whereupon the sample is submitted to centrifugation for a few minutes. From the color of the sediment one can infer whether it be pus, blood, casein or dirt. The quantity can be directly read on the graduated scale as marked on the glass. Cows that will show in one liter of milk 10 mg. of leukocytes may be considered to suffer from an inflammation of the udders.

Ordinarily there will be found to exist a certain relationship between the number of leukocytes and streptococci present. By submitting the sediment in the leukocyte glass to a microscopical examination one will be enabled to ascertain the cause of the increased oxygen liberation found by the katalysis test. As a rule one will in every instance be able to decide whether or not there be an inflammation of the udder, because one will find besides a large number of leukocytes, different cells and bacteria as well as fibrin threads, also streptococci, both long and short ones; the long chains of streptococci indicate a chronic disease of the udder, while

the short ones point to a more acute disease.

In cases where the milk comes from cows still carrying a retained placenta it has been found in the centrifuged sediment that a large number of cocci and diplococci are present, while in cases of diarrhea one will find a growth of coli bacteria in the culture media.

Report of Cases

From the great number of milk examinations as reported in a paper written by the city veterinarian, Mr. Adolf Jacobson, of Christiania, and from which article this paper forms but a brief review, I shall cite a few cases for illustrations in order to prove the value of these examinations.

"On the seventeenth day of April, 1909, a report of diarrhea and vomiting was furnished his office; two adults and three children were sick. Katalysis test of the milk showed more than 35 mm. oxygen liberation in one-half hour. Bacteriological examination gave growth of streptococci. Inspection of the dairy revealed two cows as suffering from inflammation of the udders.

May 3, 1909, another report of diarrhea and vomiting was turned in. There were ten sick people. Katalysis examination of the milk gave more than 35 mm. oxygen liberation in two hours. The test for reduktasis gave no discolorization after three hours. Microscopically there were leukocytes and long chains of streptococci in great numbers. Dairy inspection disclosed four cows suffering from inflammation of the udders.

"January 27, 1909, a report of follicular angina was received. Three children who had all been drinking milk were sick. Bacteriological examination of the milk gave as result a light growth of staphylococci. Dairy inspection; one cow suffered from a light catarrh of the udder.

"On June 11, 1909, another report of a follicular angina was received; four people were sick. Examination of the milk by katalysis—reduktasis and leukocyte test gave negative results for all"

The Surgical Treatment of Sinusitis With Blowing*

By PROFESSOR LIÉNAUX

THE dyspnea which accompanies sinusitis in horses deserves our attention. Usually colts which are affected with it are considered as incurable because we cannot always count upon the restoration of sinuses (which are distended toward the median line) to their normal dimensions. This happy outcome, which occurs occasionally, is only possible after a long time, six months or even a year. In the last two years, I have obtained several far more rapid recoveries by adopting an operative technic which is better adapted to the pathologic conditions.

Whatever the anatomical considerations may be, dyspnea always results from the deviation of a turbinate. Therefore it appears better to remove the deviated part than to depend upon the classic trephining for a problematic and always slow restoration to the normal.

The operation is particularly favorable in all cases for therapeutic interference which is directed ultimately against the sinusitis itself; it establishes in fact a free communication between the nasal cavity and the pharynx, on the one part, and diseased sinus or sinuses on the other part, which facilitates the removal of pathologic secretions and the cleansing of the infected surfaces. The operation may be indicated even in other conditions, that is, in cases where after the accustomed trephining it is found that liquids injected into the sinuses are not returned by way of the nares.

*Translated from Annales de Médecine Vétérinaire, Jan. 1912, by Dr. H. J. Achard, Chicago.

It should not be attempted in cases in which the communication is obstructed by pus. This should be removed by free irrigations, but, if these are without effect, after a few days, one need not hesitate to resort to operative interference.

In every case where this mode of intervention is justified we must first determine upon which turbinate to operate. The bulging of the forehead ("chanfrin") does not afford sufficient guidance in this respect. Whichever may be the sinus or sinuses primarily involved, the pathologic secretion finally occupies the greater portion of the nasal cavity and the operator is sure to meet it on trephining at the height of the supranasal bone.

It is well to be quite sure of the possible complex nature of the operation; to know whether it is necessary to perforate the ethmoidal or maxillary turbinate. In this manner the operator will be better prepared to investigate the different cavities that may occupy the field of operation. For this purpose one should never fail to trephine in horses both the superior and the inferior maxillary sinuses, at least in cases of excessive deformity, in order to find out whether pus is in one or the other of them.

Whenever there is impeded respiration, we must not neglect to invade the sinuses both from the lateral surface in front of the zygomatic apophysis and from the roof of the nasal cavity. This will facilitate the extirpation of growths on the mucous membrane. We prefer to make more extensive openings than is possible with the trephines on the market.

The bones should be cut by a half-round gauge; a round opening is made and the mucous membrane is found thickened on the turbinate or in the sinus. When this is perforated, purulent, muco-purulent or serous fluid will gush out. After perforating the nasal bone we come directly upon the distended ethmoidal turbinate, or then this same turbinate shows thickened walls and is compressed by the diseased maxillary turbinate and then a trocar, being plunged further into the depths, will enable the pus to evacuate from there. One may also perforate the maxillary turbinate, if the ethmoidal turbinate is crowded by the other into an angle formed by the septum and the roof of the nose. Two or three round openings are made longitudinally from one-half to one centimeter apart. Then they are united by the gauge so as to form a single opening from 8 to 12 centimeters long by 3 or 4 centimeters wide.

The length of this opening in the roof of the nose varies according to the requirements of the case. The operator must remember that the impediment to respiration extends above to the superior borders of the pharyngeal opening of the nasal cavity and that the transverse plane of the head passing through the inferior margin of the orbits divides this orifice in the middle of its height. It is therefore necessary to do the first trephining above the inferior margin of the orbits and the last will be made according to the situation of the lower cul de sac of the distended turbinate.

When the ethmoidal turbinate is so large that it interferes with the operation on the distended maxillary turbinate it must be removed. As the operator enters the cavity of the diseased turbinate and has examined its internal wall, the trocar is placed a little obliquely from above downward and from downward inward, the enlarged portion of the canula is pressed across the wall with not too much force in order to avoid injuring the nasal septum. The instrument is also used to separate, by a single sharp sawing movement, the turbinate from the septum. Then the turbinate will be raised more fully and the whole portion that is crowded against the septum is cut away by means of scissors.

The removal of the internal wall of the turbinates produces an abundant hemorrhage, which, however, is arrested shortly of itself. The further treatment does not differ from that after the classic operation of sinusitis: Free irrigation with boiled water through the different openings of the turbinate is followed by a final injection of creolin-solution and light tamponing of the orifices.

Dyspnea disappears almost always immediately after the operation. Shreds of membrane which may hang from the turbinate into the nasal cavity must often be removed in order to avoid new vegetating growths.

Report of Iowa Committee on Diseases*

By H. B. TREMAN, D. V. M., Lake City, Iowa
Chairman of the Committee

IN summing up the various diseases with which I most frequently come in contact, and that cause the most financial loss to the stock owner of my territory, and I believe it is true of most parts of the state, there is one which causes immense loss to the horse owners and of which little seems to be known of its true etiology and still less of successful treatment. I refer to periodic ophthalmia. Doctor Law in the third volume of his splendid work gives a very exhaustive chapter on this trouble and goes to some length into the supposed etiology, but gives nothing as facts. The causes upon which he lays the most stress, are wet, swampy or undrained soil, damp, cloudy, rainy climate, damp night air on wet, impermeable soils, and rank, aqueous fodders grown on marshy soil. If you will compare these with conditions throughout this state you can readily see that there must be some radically different conditions that can produce it, and in fact when you write all the etiological factors as yet discovered you are drifting far at sea. If you turn your attention to treatment you are still drifting. Doctor Law has outlined several treatments but fails to recommend any of them, and so far as I know up to the present time no one else has anything that is altogether satisfactory or anything near it. Therefore my report on this very troublesome disease is, a plea for a treatment as yet unattained.

We want some light as to the etiology of periodic ophthalmia, some successful scientific treatment with which we can relieve the poor brutes as well as prevent the financial loss to our clients. The most successful treatment I have ever tried is to saturate the system with iodine by the use of potassium iodide in dram doses two or three times a day, but to count the successful cases would not require much of a mathematician. Others recommend and claim some good results from the injection of iodine or other irritants into the fatty cushion over the eye. Doctor Baldwin of Creston reports considerable success from the injections of a 1-5000 bichloride solution under the sclerotic coat of the eye ball, and so it goes down the list of treatments and still horses are going blind every day. If any one has a satisfactory treatment please waste no time in making it known.

I will add a few words on the treatments for tetanus.

Instead of carbolic acid and glycerin used hypodermically I believe I get just as good results from the acid used in the drinking water with a solution sprinkled on the hay and grain. It is easier for the owner to administer and you do not get the sloughing which usually follows the hypodermic method. My brother reports one case upon which he used the following treatment with success; not having had another case since, he is able to report but the one case, however, I think the results in that one were good enough to justify others giving it a trial.

About September 5th he was called to a case of tetanus, it was not a severe case at that time but was growing worse rapidly. Gave one-half ounce of Lloyd's hypodermic lobelia, the animal was much quieter by the time the nail wound in the foot was dressed. Gelsemium and echinacea were left to be given every four hours one dram of the fluid extract of each. The next day the lobelia was repeated and the other treatment continued. The animal made a steady gain from the time of the first dose. I do not know whether others have tried this or not, but am curious to know if there is anything in the treatment that can really be relied upon.

Dr. Thos. M. Gidley reports the following: There seems to be but little of especial interest in this locality. My most stubborn trouble is from overloading on the dry corn

(*Concluded on page 382*)

*Read at annual meeting of Iowa State Veterinary Association, Cedar Rapids, Iowa, November, 1911.

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The Problem of Secretary

THE American Veterinary Medical Association must soon face the problem of employing a secretary on full time. That the Association has prospered without doing this is not a sufficient argument against this procedure, which has been found necessary in most important organizations and is certainly already desirable in the A. V. M. A.

If for guidance in this matter we look to the American Medical Association, an older and much stronger society than our own and one with analagous objects, we find them for many years employing a number of high-salaried officials. If for example we take commercial clubs of various cities, business men, organized for their own welfare and the welfare of their communities, again we find secretaries employed to give their whole effort to the promotion of the welfare of the associations.

Surely men will do as much gratuitously for their religion as they will for their profession and yet we find religious associations relying not upon gratuitous efforts of secretaries, who can give but a part of their time to the work, but upon officials who can give their whole time to the duties of their respective offices. The Y. M. C. A. may be taken as an example of this class of associations. In Y. M. C. A. work, from a very large experience it has been found necessary to employ secretaries to devote their whole time and effort to the work even in local asosciations. At all of the large colleges and universities and at least one of the private veterinary colleges (K. C. V. C.) local organizations of the Y. M. C. A. pay for the full time of their secretaries and are gainers thereby.

It is the custom at our meetings to felicitate ourselves upon the large growth of the A. V. M. A., but this growth in membership is only absolute. The association is making no headway in attracting to its membership the veterinary profession as a whole. The members added from year to year are not equal in number to the yearly accretion to the profession—the graduates of the various veterinary colleges; the Association is, therefore, in one sense falling behind in membership rather than

gaining, in that each succeeding year sees a larger number of qualified men outside of its membership. At present the membership of the A. V. M. A. comprises but twelve percent of those engaged in veterinary practice!

As one who reads press reports with at least average care, I am prepared to say, and demonstrate, if necessary, that the A. V. M. A. receives less publicity in the course of a year than either of three or four of the state associations and has not in five years received the number of press notices that were given the Texas Veterinary Medical Association in recognition of its latest meeting.

It may be argued that press notices do not concern us and it is a matter of no importance whether our meetings receive any recognition from the public, but such is not the case. Space given any project by the Associated Press is an accurate index of the estimate put upon that project by the public. To be ignored by the press is to be ignored by the general public.

The A. V. M. A. should be a power for the advancement of the profession throughout the nation. Its deliberations on matters of sanitation are matters of public concern and should be so recognized. It should have a part in the legislative enactment concerning the profession in every state. It should be an important factor in elevating the profession in the estimation of the public. To accomplish this it is necessary to do things of worth and to let the public know it. Merely assembling once a year and listening to scientific papers, however learned, will not accomplish this nor any part of it.

To accomplish the greatest good for the profession and for the public as a whole a plan of action must be evolved and adhered to not only during the five days of our annual session, but also during the 360 days that we are not in session. This must be *the duty of some one* person. "What is everybody's business is nobody's business," is an old and true saying and it applies here as elsewhere.

At present, information concerning our Association and its meetings are mailed at exceedingly infrequent intervals to association members only. What would be the fate of a business house that mailed its promotional literature only to its customers and that but once or twice a year—failure. Should not the advancement of the veterinary profession, and of the interests of the individuals comprising it, be a business with the Association as much as is the sale of veterinary products a business with our pharmaceutical supply houses? Should it not conduct this business along lines that all business experience has shown to be absolutely essential? Is not our association failing in its business side while growing professionally?

It is true, the Association has accomplished much for the improvement of veterinary education through its influence on the courses given in veterinary colleges and on the matriculation requirements, it is equally true that it has induced a number of its members to cease unprofessional practices and perhaps deterred ten times as many others from beginning such practices. But, all this is influence within the profession and not outside of it, the source of our incomes.

An exception to the statement that the A. V. M. A. has wielded little influence outside of its membership should be made in the case of the International Tuberculosis Commission but here the Association was favored by peculiar circumstances not likely to obtain in other lines of endeavor. Had the members of this commission been compelled to depend upon the small appropriation of the Association for the remuneration they would have accomplished little. Fortunately nearly all of them were situated in public or quasi-public salaried positions, where they could serve their employers and the Association at the same time, by the thorough and excellent work which they did and which, in the eyes of the public is a greater accomplishment than all the remainder of the work of the Association during the half-century of its existence, in most instances the public's only knowledge of the existence of the A. V. M. A.

Last winter when the veterinarians of Kentucky were struggling for much-needed veterinary legilsation, and were all but

successful in securing it, there were none authorized and supported by the A. V. M. A. to give them the small help needed to throw the balance in their favor. The same conditions prevailed in Oklahoma at almost the same time. In Louisiana a recent attempt was made to so modify the law as to permit the registration of unqualified veterinarians, and the veterinarians in that state had to fight the battles of the profession alone.

It may be said that the Association has not the funds with which to employ a salaried secretary but this objection should not hold, since one-third of the annual dues from the new members a competent secretary giving his whole effort to the work, should bring to the Association in a single year, would pay his salary. There are public-spirited, or rather professional-spirited men in the Association having the requisite ability who would be willing to give their whole effort to the business of the Association, perhaps not indefinitely but for a term of five or ten years, at a moderate salary. The honor the position would carry, and the opportunity of serving the profession, would count for much in the estimation of many of our most faithful workers and the Association would be the gainer because of the lesser amount of salary required. For $2,000 a year we believe a competent secretary could be secured and this represents the annual dues of less than 700 members even at the present low rate. Until the association increases largely in membership, which under this plan would doubtless be soon, and until its lines of endeavor be extended in many directions, obviously advantageous but now untouched, a single, salaried official would suffice.

Within the past six weeks the writer has attended meetings of a half-dozen veterinary associations. At every meeting the representatives of pharmaceutical houses were on hand taking orders for their products, representatives of the veterinary press were present working for subscriptions, for advertising and to learn in what subjects those attending the meeting were most interested. But no one was there working for the interests of the A. V. M. A., no one was present to outline the program of the Indianapolis meeting or give any reason for attending it. Not an application blank for membership was obtainable at these meetings. No one was urged to join the Association or to pay up dues that had become delinquent. No one attempted to learn from the veterinarians present what sort of programs for the A. V. M. A. they most favor. Our Association cannot afford to neglect such opportunities and yet these are only a few of the hundreds we miss annually, simply by not having designated anyone whose duty it is to perform them.

This matter should be given consideration at the Indianapolis meeting.

HAVING RECEIVED MUCH, GIVE SOMETHING

Readers of VETERINARY MEDICINE do not write enough for it. Questions concerning practical things of interest to all appear in nearly every issue, and while it is seldom that any question goes entirely unanswered the responses to many of them are not nearly as plentiful as they should be. On pages 313–14 of the July issue were given a number of queries, all from veterinarians who are coping with the every-day problems of practice. Only a dozen replies to these questions have been received at this time although there is hardly a doctor who does not possess some information about one or more of these matters that would benefit the inquirers and hundreds of others.

Not only does the doctor who adds his portion to the general fund of information by contributing to the journals benefit others but by his writing he is continually broadening his own scope of view. In the beginning one frequently finds it difficult to express himself in written words. In fact, he does not know just what to say, or just how to say it. However, as he progresses, the matter of writing becomes one of greater ease. In that he may become master of the situation and a fluent writer, he gives greater attention to like work of others and not infrequently does he goes outside the realms of medicine in

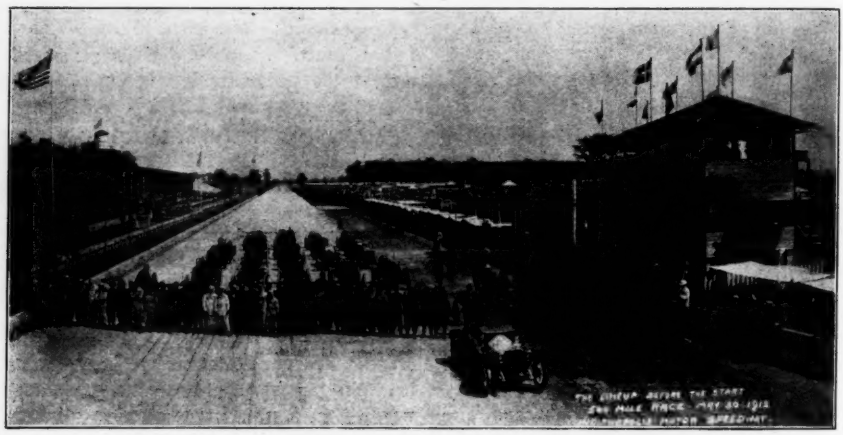
perfecting himself in matters purely literary. From the magazines he picks up his ideas of style. From the daily comes terseness of expression.

In the words of a medical editor: "Not only does writing for the journals give a person a broader idea of his professional subjects, but in addition, it not infrequently takes him out of a rut and adds energy to all of his efforts. The man who writes largely of things therapeutic wants to see that what he writes is the truth and he is thereto the later information appearing in the journals."

Now turn to the questions referred to in the July issue and let us have a discussion of those concerning which you have positive knowledge or definite opinions.

OBSERVATIONS ON THE ACTION OF MORPHINE

The conclusion drawn in the article in this issue on the effect of morphine in the



THE LINE-UP, MOTOR SPEEDWAY, INDIANAPOLIS, INDIANA

One of the attractions visiting veterinarians will be shown during the A. V. M. A. meeting. This is a world-famous speedway. A number of world records were made on this track during the race meet of this year without a single fatality during the races. The halftone shows a bird's-eye view of the machines, their drivers and *mecanicians* just before their start on the 500-mile race, Memorial Day. This race was viewed by 75,000 persons. Adjoining the Motor Speedway on the south is "Speedway," a model industrial city in the course of construction. Its chief industry will be the manufacture of automobiles and automobile accessories; its streets and avenues and parks will be named for pioneers in the automobile industry, and horses will be excluded from its confines, although this useful animal is now being used for the excavating for the new "horseless" city.

constantly endeavoring to come in contact with cases wherein he may prove this truth and by so doing he invariably broadens his practice. His writing has brought him in closer contact with his work, and, as a rule, he becomes a better doctor thereby.

"It is a recognized fact that the major portion of our text books are antiquated very soon after their publication, to a certain extent, in that new observations frequently expose fallacies in such publications. Because of this it is absolutely necessary that we augment our knowledge, gathered from such sources by adding horse are so widely different from the commonly accepted view of the action of morphine in this animal as to be revolutionary; yet the author is a high authority on internal medicine and his statements are based upon wide observation.

Is the use of morphine in painful conditions in the horse after all merely "salve to the conscience" of the veterinarians who make use of it rather than a source of surcease of pain for the patient? The following sentences from this article should set one thinking.

"Vicious and nervous horses are often quieted after an injection of a small dose

of morphine. But this is *not* the general rule, for most bad horses become more excited after a morphine injection.

"Judging from what we observe in animals under great pain we are induced to say that *morphine does not calm pain in the horse* nor in cattle.

"The horse never sleeps under the influence of morphine and remains also sensible under the prick of the knife. Often the *morphine seems to augment the sensibility.*

"Morphine is *not* a central analgesic for the horse *whose vivid pains it does not calm.*"

THE APPROACHING A. V. M. A. MEETING

There have been no essential changes in the program as outlined in our July issue, for the Indianapolis meeting of the A. V. M. A. August 26–31.

The Association of Faculties and Examining Boards will hold sessions morning and afternoon of Monday August 26 and in the evening Dr. D. E. Salmon will give an illustrated lecture on Uruguay. The Address of Welcome by the Hon. Chas. W. Fairbanks, the response and the president's annual address are scheduled for Tuesday morning. The forenoons of Wednesday, Thursday and Friday of convention week will be devoted to sectional work as follows:

One of the dining rooms, French Lick Hotel. A famous summer resort on the "Monon Route."

"Sanitary Science and Police" in charge of Charles H. Higgins, Ontario.

"Surgery," in charge of W. L. Williams, New York.

"Practice," in charge of H. D. Gill, N. Y.

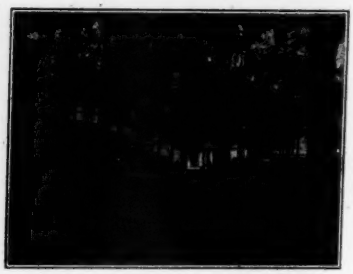
SOLDIERS' AND SAILORS' MONUMENT, INDIANAPOLIS, IND.

This monument said to be one of the finest of its kind in the world, stands in the center of the retail district of Indianapolis, midway between the Claypool Hotel, the headquarters of the A. V. M. A. and the German House where the meetings will be held. The English Hotel in the background is one of the best in the city.

All professional papers and discussions will be given before these sections. The general sessions Tuesday morning and Wednesday, Thursday and Friday afternoons will be devoted to routine work.

Bureaus of information will be maintained at the Union Station in Indianapolis and visiting veterinarians afforded every facility for securing hotel accommodations and such information as they may desire concerning the meeting or the city. The following hotels, named in the order of their preference, are recommended by the local committee: Claypool, (Headquarters) $1.50 to $3.50; Denison, $1.00 to $3.50; Edward, $1.00 to $2.50; English, $1.00 to $2.50; Kingston, 50 cents to $1.50; Grand, $1.00 to $1.50; Colonial, 75 cents to $2.00; Albert, $1.00 to $2.00; Majestic, 75 cents to $1.50; Stubbins, 50 cents to $1.50; Oneida, 75 cents to $2.00; Spencer House, $1.00 to $1.50; Imperial, 50 cents to $1.50 and up; Linden rates not given. All rates quoted are for the European plan.

The committee urges that hotel accommodations be secured in advance and through its chairman, Dr. G. H. Roberts, Indianapolis Veterinary College, will gladly



A pretty drive at French Lick Springs on the "Monon Route"

furnish any further information desired as to hotel accommodations or other matters concerning your trip to Indianapolis.

PREVALENCE OF RABIES IN THE UNITED STATES

A. M. Stimson past assistant surgeon, Public Health and Marine Hospital Service, in Public Health Bulletin 29 gives the results of an investigation as to the prevalence of rabies in the United States, which forcibly emphasizes the need of vigorous measures for the eradication of this disease or at the very least to check its alarming spread.

According to a similar survey made three years ago rabies did not exist in the states on the Pacific coast at that time but it is now found throughout that region and in a largely increased number of localities in most of the states in which it was found three years ago. In other words there has been a generalized spread of rabies in this country during the past three years; the total number of infected localities reported in 1908 being 534 while in 1911 rabies was reported from 1381 localities.

The number of rabid animals reported in 1908 was 3393; in 1911 it was 4,625. In 1908 there were 111 deaths in man from this disease but in 1911 only 98 or a decrease of more than twelve percent, notwithstanding the increased prevalence of the disease. While this decrease may be due to chance the probabilities are that it is due to a much more wide spread resort to antirabic inoculations during the latter period.

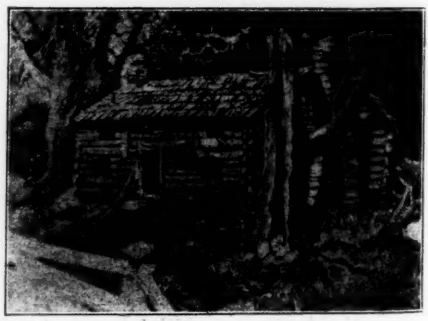
The number of persons known to have taken antirabic treatment in 1908 was 1,500 while for 1911 it was 4,625. The decrease in the number of human deaths, coincident with the increase in the number of antirabic inoculations, at least effectually disposes of the claim still advanced by opponents of the Pasteur method that this treatment causes, rather than prevents rabies.

In three persons the period of incubation is believed to have extended over a year; excluding these cases the average period of incubation in man was 49.25 days with the greater number of cases falling between twenty and thirty days. No case developed in less than ten days after inoculation.

The death rate from rabies in the persons taking treatment was eight-tenths of one percent, one-third of which was due either to delayed treatment or to too short incubation periods to permit of immunization.

THE HAIR OF THE DOG FOR THE BITE

That is what "Pat" calls it when he takes some more of the same to relieve the "head" of the morning after the night



A Vacation Suggestion
National Poultry Magazine, Buffalo, New York

before. *Similia similibus curantur* the homeopathist calls it when he gives strychnine for convulsions. AUTOTHERAPY a New York physician calls it when he

expresses pus from the urethra of a patient suffering from gonorrhea and then administers it to the same patient orally. Some veterinarians have "fallen for" it and now we may be entertained or amused with records of cures, from collecting pus and other discharges from wounds of horses and administering the same orally in well-diluted doses, unmindful of the fact that wounds of horses do notoriously ill where the animal is allowed to lick, bite, gnaw or otherwise practice "autotherapy" on its own account.

Autotherapy is probably harmless in itself, although applied to man we can hardly agree that it is innocent. Harm may come from it only because of credulity on the part of some practitioners. Already some have regarded it as similar to bacterin therapy although there is no similarity. In bacterins the user has a definite well-known and uniform product, bearing a definite relation to the infection he has to treat and accomplishing results that may be explained scientifically. In the use of pus the autotherapist has—well, just pus—tissue detritus, metabolic garbage, *debris*. The first pus produced in a wound has a considerable portion of the infecting organisms in it, later discharges contain almost none of the infecting organisms but a host of saprophytes. Wound discharge is ever varying, the dose of the autotherapist is the sheerest guesswork; visions of its usefulness are wildly chimerical.

The autotherapists also have a cure for diarrhea and intestinal ulcers; it is feces administered orally.

Citron and Garbalt ("Immunity," page 189) state, on the authority of Sir A. E. Wright, that "The therapeutic value of auto-inoculation is very slight and should not be encouraged, as in this way exact dosage cannot be followed out."

Diphtheria antitoxin was at one time given by the mouth and enormous doses used, but without success.

ASSOCIATION OF VETERINARY HEALTH OFFICERS

In the conservation of the health of the people, veterinarians should have an important part. By education and training they are better qualified than the members of any other profession to pass upon the wholesomeness of that large portion of human food which is of animal origin. The number of veterinarians employed in some capacity as state or municipal food inspectors reaches into the hundreds; no one knows even approximately the exact number or who they are; yet they have many interests in common.

A yearly meeting where veterinary food inspectors employed by the various states and cities could get together and discuss their problems and exchange experiences would accomplish much for the inspectors themselves and for their respective states and municipalities.

We believe there should be such an association. The American Public Health Association does not fill the particular need of this class nor does the United States Live Stock Sanitary Association. Of course it lies with the veterinarians themselves in public health work whether or not they will have a national organization but in any way that VETERINARY MEDICINE can aid in the orgainzation of this association, provided it is wanted by those concerned, its services are freely offered.

Such an organization should wield a large influence in preventing the custom, which is altogether too common, of appointing other than veterinarians to offices of public trust where the duties are properly those of a veterinarian. It should be able to formulate an authoritative standard for their work and to assemble much valuable information on a subject which is little understood by most veterinary food inspectors at the time of assuming their official duties.

A first requisite in formulating an organization or even ascertaining if it is desirable is of course a list of the names and addresses of those engaged in this work. This list may be secured in a short time if all our readers will aid in its preparation. Therefore we ask:

Every reader of VETERINARY MEDICINE employed in any capacity by a state or a municipality as a health (human) officer to acquaint us of the fact giving name,

address and official position and, to do it at once.

This will aid much in compiling the list but it will not complete it and therefore every reader who knows of a veterinarian employed as above is requested to send us his name, address and official position as nearly as they can give it.

Next month we shall publish this list. It probably won't be complete at first (it will not likely be published the second time in these pages) but let us make it fairly complete at least. Send in the names of all that you know. It is better that a hundred should be duplicated than that one should be omitted.

BOOKS

Veterinary Medicine, by James Law, F. R. C. V. S. The third edition of Volume IV of this monumental work has recently appeared. Every revision of this great work is a matter upon which the veterinary profession may congratulate itself.

Professor Law is a forcible writer whose every paragraph bears the stamp of completion; his discussions are comprehensive; when the reader has completed a subject, he never has the feeling that something has been omitted. Every page gives evidence of the great erudition and wide reading of the author and of the careful preparation which characterizes the work as a whole.

The writing of "Veterinary Medicine" has been attended by the greatest difficulty and has involved an immense amount of labor, a labor that few are qualified to undertake or so situated as to render its accomplishment possible. It is a priceless heritage to the profession, the result of a professional career more than a half century as a practitioner, a teacher, an investigator and always a careful observer and indefatigable worker.

Running back over veterinary and agricultural literature for a period of fifty years and more we find Professor Law a frequent contributor throughout this whole period; and so carefully prepared is this work that even his earliest contributions to the veterinary press possess scientific value almost as great today as on the date of their publication. For example take his essay on the "Physiology of the Pneumogastric Nerve" read before the Edinburgh Veterinary Medical Association in 1863—forty-nine years ago! In this article the cause of "roaring" in horses is described as fully and as accurately as it can be described at this time.

This work contains a digest of the writings of the English, German, French, Italian and other authorities but in that which concerns the practitioner in his everyday work it owes most to the ripe experience and keen observation of the author.

It is impossible in the brief space allotted to a review, to enumerate in any detail the contents of a work so large.

In the new edition changes have been made in almost every chapter to bring the text up to the best modern knowledge, doctrine and practice.

In volume I the whole subject of blood, serum, toxicity, globucidal, agglutinating and precipitating action is new, together with their bearing on therapy and pathology.

In Volume II in addition to the general improvements in the text, the subjects of morbid metabolism, autointoxication, internal secretions and their relations to health, disease and therapy are new. Volume III, with less new matter in the form of articles, bears everywhere the marks of recent advance, while Volume IV is virtually transformed. The advances in the knowledge of microbes, and their products, in their relations to species, environment, pathology, serum therapy, immunization, and so on, systematically arranged so that the earnest student can bring up his knowledge to date and deal with modern conditions in a way that would have been impossible a few years ago.

Because of the modern relations and intercourse between nations the cosmopolitan question of disease has assumed greater importance than ever before and that the veterinarian may have before him the discussion not only of diseases actually present on this continent, but of such as are at all likely to be imported or which may be now within our dependencies, this portion

of the work has been entirely rewritten and considerably enlarged.

The fourth volume has a general index for Volumes I to IV, third edition so that no one need to be misled by the general index in Volume V which is still in its second edition.

The price remains as formerly $5.00 per volume or $20.00 for the whole set. Published by the author, Ithaca, New York.

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Alabama Live Stock Association: Proceedings of the Sixteenth Annual Meeting. This excellent report contains very much that must be of great value to the live stock industry of Alabama and several articles that veterinarians will find interesting and profitable as well, among which may be mentioned the president's address by Dr. C. A. Cary, of the Alabama Polytechnique Institute, and "Hog Cholera and the use of Hog Cholera Serum" also by Dr. Cary. Likewise several articles on dairying and dairy problems of the south.

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Tuberculosis of Hogs: Bureau of Animal Industry, Circular 201, by John R. Mohler, Chief of the Pathological Division and Henry J. Washburn, Senior Pathologist, Pathological Division.—This circular, a revision of B. A. I. circular 144, contains forty pages and numerous illustrations. It deals exclusively with tuberculosis in hogs, discussing the various sources of the disease, its prevalence, and distribution and the enormous economic loss that results therefrom.

A discussion is given of methods for tracing hogs showing lesions of tuberculosis on slaughter, back to the farms on which they were reared and thus locating the tuberculosis farm of the country. The feasibility of thus locating farms on which there are tuberculous cattle was demonstrated by Burton R. Rogers, while a Veterinary Inspector at Cedar Rapids, Iowa.

Tuberculous cattle and dairy products contaminated by diseased cattle being the chief source of tuberculosis in hogs, its eradication in this animal will be a simple matter after the tuberculosis disappears from cattle.

Aside from the value of the system of tagging hogs described, for the location of tuberculous cattle, it is shown to be more than worth while for the prevention of disease in hogs, since a hog raiser knowing he had tuberculous cattle on his farm and knowing further that he would have to market his hogs subject to a postmortem inspection would not allow them to follow his cattle and feed on the droppings, or to eat uncooked milk from these cattle.

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Four Epochs of Life, by Elizabeth Hamilton Muncie, M. D., Ph. M. This—a timely volume—is another that deals with the sex-problem. The story is of a young couple who marry soon after graduation in the same class from a medical college. The rearing of the doctors' own children and their work in schools and hospitals and mothers' clubs is entertainingly told. The book is a scholarly and scientific and at the same time a popular one, readily understandable. An exceedingly profitless, barren and uninteresting discussion of the control of sex is the only dull chapter in it. The work contains many valuable lessons, much excellent advice and a large amount of pertinent information on subjects of vital importance.

Cloth, 272 pages. The Muncie Sanatorium, Brooklyn, N. Y. 1911. Price $1.50.

SPRING-TIME SURGERY

We have received a copy of this most useful little work and can heartily recommend it to our readers. It consists of a series of short articles by many writers on different operations, such as castration of cryptorchids, complications of castration, spaying, abnormal parturition, and the surgical methods necessary in connection with newly-born animals. The book is published from the office of the AMERICAN JOURNAL OF VETERINARY MEDICINE, and is edited by D. M. Campbell, D. V. S., the editor of our progressive contemporary. Although only running to 163 pages, the book contains a fund of practical information, not omitting some valuable hints to the veterinary practitioner from a human

surgeon, on The Treatment of Injuries to the Hand, so frequently occurring in practice. The book can be obtained in this country from Messrs. Bailliere, Tindall and Cox, 8, Henrietta Street, Covent Garden. Price 5s. net.—*The Veterinary News.*

The Score-card System of Dairy Inspection, Bureau of Animal Industry, Circular 199, by Geo. M. Whittaker.—This valuable publication deals briefly with the history and growth of milk inspection and describes what is necessary for effective city milk inspection. The score-card system is advocated as the only practical method of attaining this end.

The use of the B. A. I. score card is described in great detail and some records of what has been accomplished by this system is given.

A list is given of available works on testing milk and cream and of agricultural and experiment station bulletins on the same subject.

REPORT OF IOWA COMMITTEE ON DISEASES

(Continued from page 372)

stalks. We were short of rain during the summer and stalk fields are of little value for feeding and the cause of much bowel trouble. Horses show some depression, refuse feed and water, have a little temperature, from 101.5° to 103° F. There is some soreness over the abdomen, cerebral derangement was noticed in one or two cases. It is very difficult to get a free evacuation of the bowels but once secured recovery is steady from that time.

I have had several very bad cases of azoturia. Is there any help for them other than lots of time on pasture? That has been my course, but results are so slow coming that the owner is badly discouraged before the animal is ready for work again.

I am using bacterins, with surprising results both pro and con. In one case of a runaway, a mare struck a wagon rod with her knee and drove it in between bones of the joint at least two inches. I injected the wound but not deeply with eucamphine (pure) once and treated with bacterins, nuclein and echinacea and it did well. She was never clear off the leg, though it was painful and badly swollen and the temperature got up as high as 104° F. about the fifth day. I believe bacterins assist in any open wound, wire cuts seem to make better gains, chronic wounds about the feet, and sores on stallions' legs also seem to get along better from their use.

Hypodermic injections of echinacea gave me good results in two bad cases of snake bite in yearling colts; relief was obtained in a few hours.

Dr. A. Brodie writes of his experience with "Kellogg's Rectal Lock" instrument for holding injections he says: "In my hands it is no good. It will not do the work that it is claimed to do, and you are out a $10 bill. Has any one else tried it?"

Dr. N. A. Kippen reports the following. In describing one of the diseases in and around Buchanan County in 1911, I will say, we had an outbreak of encephalitis or enzootic meningitis among the cattle, there was also one case in an aged mare. The cause was probably forage poisoning, as all these animals were fed from corn stocks where the fodder underwent more or less putrefaction. The disease disappeared in every case after a change of feed. Seventeen head died in one neighborhood in less than a month. No treatment was given as the animals lived less than twenty-four hours after they were attacked. As a preventative a good dose of epsom salts was given to the rest of the herds. The disease appeared in five different herds. Postmortem examination revealed an accumulation of clear serum in the ventricles of the brain, also along the spinal cord. Microscopic examination revealed a diplococcus in the serum.

Arecoline is recognized as a valuable cathartic for unloading the bowels of accumulated food. I find it a valuable absorbent using it in laminitis, lymphangitis and even pleuro-pneumonia and pleurisy when the strength of the heart will permit of its use; it being a heart depressant. As its action stimulates the lymphatics it is valuable in removing inflammatory deposits.

Abstracts From Foreign Publications

Translated by DR. JULIUS A. JESSEN, Irwin, Iowa

HEALING OF A COMPLICATED FRACTURE BY BONE-SUTURE

By Dumasel-Lappesrouar (*Journ. de Med. Vet.*, Sept. 1911.)

A four-year-old gordon setter was brought to the clinic with a fractured tibia and fibula of five days' standing. Both ends of the tibia protruded through a wound on the inside of the leg. The wound was 5.3 centimeters in diameter and its edges materially lacerated. The muscles were blackish, hemorrhagic, covered with pus and greatly swollen. The ends of the bones were separated from the periosteum, the marrow was of a gray color and suppurative. The general condition of the patient was bad. The pulse was 120 per minute, temperature 104° F. and a stubborn constipation which gave place to bloody diarrhea was present.

The hair surrounding the wound was shaved and the wound enlarged above and below. A reposition of the broken ends was, however, impossible. A moistened bandage consisting of cotton, pasteboard, muslin and silicate of soda was applied and the wound treated with hydrogen peroxide three times daily and kept covered with a moist bandage. The general treatment was symptomatic. On the third day the animal was somewhat livelier, the pus looked better and the wound was taking on a red color.

On the twentieth day the suture was undertaken. The ends of the bone were perforated with a drill and united with copper wire. On the outside of the joint a counter opening was made, which rendered the application of disinfectants easy. The pasteboard splints were replaced by wooden ones. After twenty days the callous united the broken ends, and although the patient tore off the bandage several times, the copper wires held the bones in place quite well.

Suddenly an oily, brownish, ill-smelling pus was discharged from the wound. This was found to come from several pieces of necrotic periosteum and bone. At the same time the copper wires loosened of themselves and were removed. The foot was healed and the patient discharged after being in the hospital ten weeks and after a few months the leg was completely recovered.

EXPERIENCES WITH CONEPHRIN

Frohs, in *Deutsche Thierartzl. Wochenschr.* No. 4, 1912.

The Thilo and Company, Chemical Institute, Mainz, Germany, markets an anesthetic called *conephrin*, which has been used in human medicine with good results. It is sold in sterilized and sealed vials containing one gram each. Since heretofore an equally convenient and permanent agent was unobtainable the author decided to give it a trial in veterinary practice.

Conephrin contains in 100 Cc. of water, 75 Gm. cocaine hydrochloride, .004 Gm. paranephrin (Merck), 9 Gm. sodium chlorid and traces of Thymol. It is packed in cartons containing twenty vials, at $1.00 per carton.

The technic of injection is the same as with any other Schleich's solution. The author has used the agent in several cases of which the following are examples:

CASE 1. A dark brown gelding, ten years old, with a necrotic area in the skin, which was closely united with the underlying tissue. One vial was used for the injection. In six minutes anesthesia was complete, so that the removal of the necrotic scab could be effected without causing the animal any pain whatsoever.

CASE 2. An eight-year-old bitch suffering from a carcinoma on the left udder of the size of a hen egg. After the injection of three vials the operation was painless and without any hemorrhage worth mentioning. Healing occurred by primary intention.

CASE 3. A German police dog with a rudimentary toe on each hind foot, which interfered with his usefulness to the extent

of making him unsatisfactory for service. After the injection of one vial of conephrin into each toe, complete and painless amputation was performed with very little hemorrhage and healing by primary union followed.

For injections a one-gram metal syringe was used. No objectional sequelæ were observed either before or after the operation. The general condition of the patients and the progress of healing was satisfactory. The desired degree of anesthesia was secured in every instance. After considerable experience with conephrin the author feels safe in recommending it as an inexpensive, reliable local anesthetic; one that keeps well and is always ready for use.

INFECTIOUS ENTERO-HEPATITIS OR TYPHLO-HEPATITIS (BLACKHEAD)

By Walter Jowett, Kapstadt, (*Deutsche Thierartzl. Wochenschrift*, No. 26, 1912).

This disease occurs among poultry, especially young turkeys, is very infectious, and destroys entire flocks in a very short time. Owing to the discoloration of the fleshy parts of the head the disease is called blackhead. Theobald Smith, who first studied the details of the disease, named it infectious entero-hepatitis, while Lucet later considered it under the name of para-typhlo-hepatitis. In turkeys either one or both ceca and the liver become diseased.

A small microscopic living organism is believed to be the cause, it being always present in the contents of the bowels and the feces of the sick birds. When examining the thickened wall of the cecum closely small, round or oval bodies, may be seen in the layers of submucosa and also the muscular structures, which contain small, but usually sharply defined nuclei, the latter being located either in the center or near the margin. The cell-plasma is homogeneous or slightly granulated. The microorganisms themselves have a diameter of from 4 to 12 microns, seldom only 3 microns.

Smith considered the microorganisms as ameba meleagridis, comparing the disease with amebic dysentery of man. Later investigators (Coll and Hadley) are of a different opinion and consider this organism a coccidium, believing that the ameba meleagridis of Smith is a developing coccidium. In still later investigations Hadley and Anisen have reached similar conclusions. These men further point out that in numerous cases of blackhead in turkeys and other poultry, certain flagellata are the cause of the condition so that the "blackhead" is often caused by more than one infection and is also caused by more than one species of germs.

Symptoms: The disease is usually most severe among young turkeys. The poults become dull, morose and have little or no appetite. The diarrhea which soon appears is a characteristic symptom. The passages are green at times and often watery. The comb and the featherless parts of the head are dark blue or blackish. Upon sectioning the liver, it is found to be enlarged and studded with whitish, gray blotches, the consistence of which is solid, the contents softer, though of fibrous and solid form. The ceca are enlarged over the diseased area, their walls thickened and their contents yellowish white to greenish, and of a doughy consistency. The epithelium is pealed off of the mucous membrane, and the submucosa considerably thickened. In this part of the intestines myriads of the parasites may be found. Besides the real causative agents of the disease numerous bacteria are found, which owing to the loss of the protective epithelium can enter into the walls of the gut.

Cooper Curtice, one of the latest investigators of entero-hepatitis in turkeys, has proven that the disease cannot be carried by the eggs. All eggs, however, of suspicious turkeys should be wiped off or better, dipped in an 80 to 90 per cent solution of alcohol, as of course the disease may possibly be carried by the feces.

The usual rules for preventing the spread of the disease are indicated. Separation of the sick from the well, burning of the dead, and disinfection of the houses and premises with lime. Remedies have proven unsuccessful.

I believe the JOURNAL is second to none for the practitioner. I cannot afford to be without it.

D. D. LE FEVRE, D.V.M

Newark, N. J.

POINTED OPINIONS ON LIVE TOPICS by Readers of Veterinary Medicine

It is in reports like those of this department that the current history of the progress of veterinary science is written. Are you leaving a record of your experience which will help others, as you have been aided by these and other clinical reports? If not, you are earnestly invited to contribute from your experience that this department may be of the greatest service to its readers. By so doing you will earn the thanks of the editor, the approval of the veterinary profession and the lasting gratitude of those who are aided by your suggestions.

Motor Cars and Dogs*

By F. J. TAYLOR

NO doubt veterinarians practising in districts where motor cars are even only occasionally seen in the streets, invariably have a casualty list to account for in the shape of dogs, a great number of which are rolled over and over under the chassis and come out at the other end simply shaken, frightened and covered with dust, whereas others suffer from injuries so remarkable and quite unlike other injuries, that a few of my cases of accidents of this nature may be interesting to those canine practitioners in large towns where motor cars frequently bring in a little grist on the one hand to compensate for the financial loss they cause to our business on the other hand.

Correct diagnosis on the spot is often an impossibility owing to the complex nature of the symptoms presented immediately after the accident. The usual history is that the owner was exercising his dog, which strayed into the road, and a motor coming along at quite a regardless speed alarms the owner, who calls the dog and in this way detracts his attention for the moment from the car. The driver of the car trusts that the dog may obey its master, and proceeds; but the dog remains stationary. The result is an almost unavoidable collision in which the starting handle, radiator, ends of the springs, tires, or the chassis, play an important part, and the victim is extremely lucky to come out at the other end, as frequently happens, simply very dirty, bruised and frightened. On the other hand, more serious consequences may ensue, as the following instances will illustrate:

1. A wolf-hound, after collision with a large car, was run over by both near wheels without any external injuries being inflicted It was brought to me in a totally paralyzed condition, being unable to move any limb, and having quite lost the powers of retention. He remained in this condition for five days, being artificially fed. Catheters and enemas were used three times daily, counter irritants were applied to the spine, and iodide of potassium and strychnine administered internally. Complete recovery took place from the sixth day.

2. An Irish terrier jumped from a car in motion, which ran over him with one wheel. When seen, the dog was evidently in acute pain, and difficult to handle, great tenderness being manifested on manipulation of the posterior ribs. There was no external injury to assist in the diagnosis. Anodyne treatment was applied, and internal sedatives given, but the dog died during the night. The autopsy showed a rupture of the capsule of the spleen and an exudation of the contents into the abdominal cavity, the border of the interior right

*Reprinted from *The Veterinary News*, Dec. 23, 1911.

lobe of the liver was split in seven places, and the duodenum almost completely severed by the crushing action between the tire and possibly some rib-like elevation in the road.

3. A collie dog was completely run over by a chassis, and in rolling beneath the car, the testicles, being pendulous, were torn away, and damage to some surrounding tissues necessitated removal of the former. No complications ensued, and recovery rapidly took place. I mention this case, which may seem a somewhat trivial one on the face of it, because of the frequency with which this class of injury is inflicted by motor cars, and I attribute it to the fact that during the rolling over which takes place underneath the car, the testicles, being pendulous, are liable to come into contact with projecting metal parts, and become badly torn or completely removed by being hooked up in some way.

4. A Dalmatian bitch, which was run over by one wheel, showed no definite symptoms for twelve hours, when she began to look distressed, and breathing became accelerated. No urine having been passed during the night, a catheter was used without success. Great pain was evident in the perineal region, which hot fomentations seemed to increase, and death took place twenty-four hours after the accident. The autopsy revealed a ruptured bladder and peritonitis. I blame myself for not operating in this instance, as I was firmly convinced at the twelfth hour that such a possibility might exist; but the owner was averse to this, and I was unable to convince her of the evident necessity for the operation. I should not hesitate, however, when permission can be obtained, to open the abdominal cavity whenever internal injuries or organic ruptures can be diagnosed, as my next case will substantiate.

5. A fox terrier bitch, ten years old, after an accident in the street, was seen in a collapsed condition, and evidently bleeding profusely internally. There was no relief from the treatment adopted, and it was decided to operate the same night. Rupture of the right kidney was found, and on this being ligatured and removed the hemorrhage ceased. The abdominal cavity was washed out with a normal saline solution and mopped dry with sterilized gauze and wool. The wound was closed in two layers by gut and silk, and there was a complete recovery in a few days.

6. A retriever dog was brought in with prolapse of the bowel and rectum and external wounds in the thigh and inguinal region, after an injury from a motorcycle. The operation for ventrifixation of the bowel to the abdominal wall was performed with good results.

7. A young terrier dog was injured in the lumbar region and kidneys by a car. It died an hour after being seen, and the autopsy showed a rupture of the kidney and a fracture of the spine.

8. A cross-bred collie bitch had both forelegs fractured by a motorcycle collision; the fractures were reduced and recovery took place.

9. A terrier dog sustained an injury to the neck by a wheel passing over it. It was brought in unconscious, the eyeballs were rotating, and it was involuntarily passing urine. It remained in a comatose state for twenty-four hours and then died. The autopsy showed dislocation of the occipito-atloid articulation and spinal cord severed, but all the other organs were normal.

10. A dog was injured by a collision with a motor cycle, the rider of which was of opinion that the dog got his leg through the spokes in some way, with the result that the gastrocnemius tendon was completely divided in the near hind leg. Suture of the divided tendon was made under an anesthetic, silk-worm gut being used to make the union, the wound in this case being dressed with chloroform and iodine one percent, and the leg encased in normal position by plaster-of-paris bandages. These remained on for three weeks, and on being removed the tendon had resumed its proper function, and lameness cannot now be detected in the limb.

11. Partial and complete rupture of the stomach are not frequent sequels to motor accidents in my experience, but one case is worth recording in which laparotomy was performed, and a necrosed, partially ruptured portion of the stomach wall was excised, and the patient is still alive,

apparently healthy and free from gastric trouble.

12. Stricture of the bowel was caused in a spaniel bitch by a motor accident eighteen months previous to my treating her for complete stoppage and intestinal paralysis. I attempted to evacuate the bowel with glycerin suppositories, by enemas, and a long bone spoon which I employ for this purpose, but without successful results in this instance. Laparotomy was performed under an anesthetic, and an attempt was made to knead the obstruction down the bowel towards the rectum. This also failed, and the constricted portion of the bowel and also the obstruction behind were removed. The divided parts were brought together by a Murphy button which remained in position so long that a secondary operation had to be performed to remove it from a mass of granulations and anastomosed tissue. The opposing sections of the bowel were again brought together over a tube, and this supported the united portion for several days, when it was passed in a partially digested condition and covered with mucus. Benger's food was given for a fortnight afterwards, and the dog recovered and is still alive.

IOWANS EAT TUBERCULOUS MEAT AND DRINK TUBERCULOUS MILK

We would suggest that all cars carrying live stock should be thoroughly cleaned and disinfected after each shipment is delivered and before the cars are again used for live stock. Any United States veterinary inspector will verify the statement that many tubercular cattle and hogs, and quite often hogs affected with cholera are found in the common every day shipments of stock to the packing houses, and especially to the large markets of the country. Cars carrying tuberculous animals to Chicago and other markets, as well as to the packing houses in our own state, and without any disinfection bring cattle back into our state, or into our community if shipment originates within the state. This is a menace to the health of our own cattle and hogs almost as great as would be the direct importation of cattle already infected with tuberculosis. Legislation to correct this is needed badly.

A large number of the dairies of the state are in a very insanitary condition. Stables never properly cleaned, sloppy floors, dark interiors, and poor ventilation are conditions quite frequently met with, but gradual improvement in this respect is noticeable. The milk from many herds where tuberculosis exists is being sent daily to the different creameries of the state, and tuberculous cows are among those furnishing milk for family use in most of our cities and towns. Every city and every incorporated town in our state has the legal right and the power to forbid the sale within its borders of filthy milk or milk from diseased cows and it is one of the highest duties of its officials to see that no such disease-breeding, death-producing milk is sold to its citizens. Will they perform their duty? Some time but not yet. Tuberculin tests of all cows furnishing milk to be used as milk and cream should be demanded. Such dairies should be subjected to periodic inspection and all insanitary conditions corrected. "Clean out, clean up, and keep clean" should be demanded of every dairy man by his patrons.

Animals slaughtered in private abattoirs should also be subjected to examination before and at the time of killing by a competent inspector. We are unable to see any wisdom in inspecting food products intended for interstate commerce and at the same time accepting for home consumption any class of meat the butchers of the state have to sell, and not only without the assurance that it was procured from a healthy animal, but with the *absolute knowledge that some of the meat that is eaten on all of our tables is from animals that would not pass the United States inspection.*

Who ever heard of a butcher destroying the carcass of any animal that he bought for the purpose of supplying meat to his customers, and can any of you by the greatest stretch of the imagination convince yourself that these butchers are always so fortunate in their purchases that they never buy an animal that is affected with generalized tuberculosis? *We know beyond any doubt that both milk and meat from tubercular*

animals can be found on the tables of some of citizens of Iowa any day in the year. The only remedy against this evil lies in the establishment of a sensible system of inspection.

J. W. SCOTT.

Manchester, Ia.

ASEPTIC CASTRATION

Enclosed find my subscription for another year for VETERINARY MEDICINE. I am sure your efforts to make it worth more will be appreciated by all who have the pleasure of reading the last three numbers. The articles on wounds were more than worth the cost of a year's subscription.

My experience in castration under aseptic methods is all that could be desired. I get union by first intention practically every time in the castration of about eighty colts a year including one or two ridglings.

I operate with the ecraseur either in the standing or recumbant position as I think most suitable. If the colt is fairly tractable he is operated upon standing, if not, he is cast in a grass field. On arriving at the farm I put the knife, ecraseur and needle threaded with silkworm gut in a three per-cent solution of lysol. Then I examine the colt and decide whether or not to cast him. If he is to be castrated standing I pick a place against a fence in a grass field (there is not the same chance of dust getting in the wounds as if done in the farm yard or in a building) away from the manure heap. Having put the twitch on and the blind to cover his eyes I proceed to wash the scrotum with three percent lysol then dry with clean towel.

Having made the incisions in the scrotum I take the ecraseur in my right hand and after putting my left hand in the antiseptic solution and proceed to put on the chain as high up as possible on the cord without touching the cord with the fingers above the place where it is to be cut through. Having cut the cord, one or two sutures of silkworm gut are put in each wound but am careful not to put my fingers in the wound n doing so. Take hold of both sides of the wound between the fingers and thumb and press them together.

Having finished, the colt is not put back in the box for half an hour or more but if everything is favorable he is left out altogether. If he is cast do not be tempted to put carbolic oil or any other dressing in the scrotum or to wash any blood off. In forty-eight hours you will be surprised what adhesions will have taken place; the wounds being completely closed.

I have been castrating this way for sixteen years and find that by keeping the scrotum stitched up I have not had a case of tetanus or peritonitis. When using the wooden clamps or actual cautery I had three or four cases of tetanus every year.

W. G. BUNNELL, V. S., (Ont.)

Rochdale, England.

A LARGE SPLEEN

During the process of immunizing cattle against East Coast Fever we very often

Large spleen caused by the Theileri parva

see large spleens in the cattle killed for vaccine purposes. I enclose a photograph of the largest spleen that I have ever seen. It was taken from an ox that had been suffering from East Coast Fever for two weeks.

The greatest length was 106.7 centimeters (42 inches) and the breadth 34.22 centimeters (13½ inches). Unfortunately as I was in the field I had no scales with which to weigh it.

The large spleens met with in cattle killed whilst suffering from East Coast Fever are

said not to be due to the disease so much but to the Redwater complications. In this particular case I could find no trace of the Piroplasma bigeminum and am inclined to attribute the size to the Theileri parva.

FRANK CHAMBERS, M.R.C.V.S.,G.V.O.
Umtata, South Africa.

THE TREATMENT OF EXOSTOSES: JOINT AND TENDON EFFUSIONS WITH ANTIPERIOSTIN*

In testing this remedy on a large number of cases it must be conceded that Antiperiostin has shown itself equal to and in very many cases far superior to other therapeutic measures. The author says:

"Antiperiostin is a distinct compound, composed of well known elements. It gives most excellent results especially in exostoses, callosities, and galls when the process involved is not too extensive. It may fail in exostoses larger than an egg, or when of bony consistence, and in galls of more than usual extent. Such cases are not amenable to any medical treatment. In the same way it is a mistake to use it in advanced spavin, as the changes in the involved joint are too deep-seated to be removed by a superficial inflammation of the skin. I do not include in this those cases in which there is only an external exostosis, whilst the deeper changes in the joint are absolutely wanting. The diagnosis of spavin is thus often made, and erroneous conclusions are reached in regard to the remedy.

Usually the hair grows again but it must be borne in mind that in rare instances bald spots may remain. In this respect much depends on the treatment in the individual case. Obviously heavy draught horses have a more resistent skin than that belonging to the thoroughbred. (The application of acid salicyl., 5.0; ol. olivar, 50.0; balsam Peruv., 2.5, has helped splendidly in regrowing the hair.) The intensity of the application must be modified also by the degree of resorption, which is to be expected from the resultant inflammation in the individual case. Here, too, there are limitations. When the area of the skin that has been exposed to the action of the remedy is still just able to endure the changes preceding resorption without destruction the highest degree of efficacy has been reached. What is not resorbed is not amenable to external treatment.

On the other hand, it is a mistake to induce this highest degree of intensity for growths of minor importance which are readily resorbed. Under a careful observance of these points, but happily in very rare instances, small necrotic or hairless spots are not always avoidable, as we must consider a certain idiosyncrasy in some individuals to the action of the remedy. When the etiological factors are not at the same time removed, recurrence may occasionally be expected, especially in galls; which is true of every disease whose cause persists or returns.

The general condition of animals treated with Antiperiostin is not disturbed. If marked lameness noes not compel prolonged rest, the patient can be put to work after one or two days without harm.

W. A. BOEHME.
Veterinarian.
Dresden, Germany.

*Translated from *Tierarztl. Centralblatt*, No. 13, 1912; by Ernst Bischoff.

AN OVERLY SENSITIVE MOLAR

On April 20, 1912, a horse was brought to me, which the owner informed me could eat but would not swallow.

I examined the horse and found him normal in every respect with this exception. I at once suspected that he had some foreign object between his upper molars but upon a careful examination of his mouth and teeth I found nothing to prevent mastication and deglutition. I offered the horse water and he drank without difficulty. I then offered him corn on cob which he would take into his mouth as usual but would allow it to drop from his mouth unmasticated. I was "stumped," but gave the owner some nux vomica to give and told him I would see the horse again soon which I did to find him in the same condition. I told the owner that I did not know what the trouble was but advised him to continue the use of nux vomica. In a few days the

horse was eating a small quantity of bran, and in about ten days was eating as well as usual.

Will some brother veterinarian make a diagnosis?

T. C. GREEN.

Orchard, W. Va.

METASTATIC ABSCESSES OBSTRUCT THE INTESTINE

Here is a peculiar case which I would like diagnosed through the pages of VETERINARY MEDICINE.

A black mare, age eighteen, weight 1250 pounds, condition fairly good, appearance thrifty and healthy, had worked all season. I was called about 12:30 a. m., May 22. I arrived an hour later and found her showing signs of impaction or obstruction colic. This was my diagnosis. I made a rectal examination and found the rectum tightly contracted and containing very little feces, but the colon was filled with solid feces. The pulse and temperature were normal, the breathing hurried and shallow and the abdomen tucked up.

I administered a cathartic capsule containing aloin, three drams and calomel, two drams, and also a grain of arecoline, hypodermically. The horse was led out doors and lay down and remained quiet for about half an hour, then rolled over once. There was a good deal of flatus passed, also three or four passages of feces, which seemed quite normal. In about an hour I gave another grain of arecoline. The action from this was not as good as from the first dose. The horse appeared easier now and the abdomen not so tucked up.

I left the owner some fluid extract of nux vomica to be given every three hours and told him to report to me in the morning, which he did about eight o'clock and I started for the farm immediately but the mare died before my arrival. The owner stated that the mare had been quite easy until about 4:30 when she commenced to act worse again and died four hours later.

POSTMORTEM EXAMINATION. There was an abnormal amount of fat under the skin and also next to the peritoneum. The lymph glands in the mesentery were enlarged and fatty. There was a sac about the size of a man's fist attached to the small intestines by a cord of about the size of a lead pencil, and about three inches long. This was wound around the intestine and the other intestines were interlaced around this one making a tangled mass. The small intestine was all much inflammed throughout its length. The large intestine was normal in color and tightly filled with feces. The lymph glands all along the intestines were enlarged to about two or three times their normal size and of fatty consistency. There were three other sacs attached to the intestines and mesentery each of about the size of the first one opened. I found a sac about the size of the others floating loose under the stomach; it contained a lot of creamy stuff, white in color. The lungs appeared normal. The liver showed cloudy swelling, the spleen was enlarged and very dark. The stomach was about one and one-half times its normal size and contained a large quantity of a black liquid also some ingesta. The small intestine was filled with a purplish fluid.

There was no history of any "dope" having been fed this mare but the owner said that she had had a kind of distemper ever since he owned her which was about two months. She worked right up till noon of the day preceding her death and ate her dinner all right.

This case has me coming. I should like to hear from others about it.

A. C. CURTISS, D.V.M.

Evart, Mich.

AN UNEXPLAINED RECOVERY

While investigating a supposed outbreak of contagious abortion among cows in the practice of Dr. R. H. Bird of Greeley, Colorado, I was shown an interesting case.

The case was a Guernsey cow who had eaten a quantity of mouldy alfalfa hay. Mycotic poisoning resulted. The cow showed symptoms of abdominal pain, there was tympany of the rumen. Later she became weak, unsteady gait, starey eyes, excited and bellowed. She finally went down, unable to rise and threw her

head from side to side, bellowing and finally becoming completely comatose.

Doctor Bird inflated the udder with oxygen as in a case of milk fever and to his surprise in a short time the cow was up and at this writing is on the way to recovery. Cathartics and other agents thought to be indicated were administered.

B. F. KAUPP.

Ft. Collins, Colo.

HYPODERMIC LOBELIA FOR TETANIC SPASMS*

I formerly used the specific medicine lobelia in the treatment of tetanus, until the advent of the hypodermic product, and found it of great value in those cases which have gone until well-marked spasms have set up. I will give a record of two cases in horses which I have treated with lobelia.

CASE 1. Gelding, light brown in color, three years old, in good condition and well cared for. Was castrated some three weeks before by an empiric and turned out in a pasture which had been used for a wheat field some two years before and contained several old, decaying stacks of wheat straw, which the animal was allowed to run to and lie down in.

On about the twenty-first day the animal showed well-marked symptoms of tetanus. I arrived at the farm about 5:30 p. m. and found a severe case of tetanus.

I gave at this time one-half ounce of specific medicine lobelia and one-half ounce of gelsemium hypodermically, and repeated the dose every four hours until twelve hours had elapsed. Then I left a mixture of:

Sp. med. gelsemium.....ozs. 8
Sp. med. lobelia.....ozs. 6

Two tablespoonfuls to be given every six hours until the medicine was all given or until the spasms had subsided.

I saw the animal again on the sixth day following and noted well-marked improvement. Most of the muscular soreness had subsided. I then ordered the medicine given every twelve hours for the next six days and put the animal on a laxative tonic, to find complete recovery in about six weeks, and the animal was put to work, and after about one year the owner reports the animal has done fine ever since.

CASE 2. Stallion, sorrel, four years old. General condition good. Diagnosis: Acute idiopathic tetanus. I was called to see this patient at about seven in the evening.

Temperature 101.4° F. Pulse 56 to 60 per minute. Walking very stiffly in a circle; jaws unable to be opened. Muscles of neck very hard and head drawn into right flank; appetite fair at all times. Some constipation.

TREATMENT. The animal was removed to the hospital and put into roomy warm quarters. Aloetic purge. Hypodermic lobelia, one dram every two hours until relaxation occurred, which was in about eighteen hours. Also conjoined with this was 15,000 units of anti-tetanic serum. In four days enough recovery was noted to commence the use of a good tonic, which was given in daily doses of:

Fl. ex. nucis vomicæ.....drs. 2
Fl. ex. gentianæ.....oz. 1
Iron arsenate.....grs. 6

Complete recovery within four weeks.

E. ARTHUR DEAN, B.S., D.V.M.

Guthrie, Okla.

*Reprint from the June number of *Ellingwood's Therapeutist.*

SCHISTOCORMUS REFLEXUS AGAIN

March 13, 1912, I was called to an obstetric case in a cow and found the following conditions:

All internal organs of the calf protruding from the vulva of the cow. The abdomen of the calf was open at the linea alba and the vertebral column flexed upon itself so that the hair side of the skin was on the inside of the pouch which the calf's body resembled. All four legs, with the hind legs crossed and the stifles turned out, protruded from an opening in the pouch just over the lumbar region.

Delivery was effected by disconnecting the vertebra and skinning the pelvis far enough to permit the legs to go behind the ribs.

This is the only case of this kind I have seen in thirty years' practice. This pre-

sentation is not described in any of my text books on obstetrics.

IRA M. GREGG.

South Brownsville, Pa.

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[You may find this abnormality described on page 745 of Williams' "Veterinary Obstetrics." Cases of schistocormus reflexus have been reported in VETERINARY MEDICINE by Drs. D. O. Knisely (June 1911), L. J. Herring (August, 1911), and J. B. McNamon (June, 1912). Wm. Caudwell, F.R.C.V.S., reported two cases (*Vet. Rec.*, July 20, 1912) occurring in thirty years' practice. It is an interesting condition of rather rare occurrence.—ED.]

A "COVERED" OPERATION NOT COVERED

A Modification of The Operation of the Castration of Horses.

Last spring, having an unusually large number of aged horses to castrate, and having to do this work while handling bunches of colts, and not being especially prepared for it, we tried the following method with very gratifying results: The animal is prepared and cast in the usual manner, and the scrotum is incised exposing the testicles, but the incision is carried deep enough to penetrate the tunica vaginalis reflexa. While holding the testicle with the left hand, a medium-sized pair of curved scissors are introduced with the right hand into the opening in the reflexa, which is then opened well upward along the cord; while still holding the testicle with the left hand and the scissors with the right turn the scissors at a right angle to the tissues, but with the back of the blade towards the spermatic cord, and cut downward and outward, cutting all the tissues except the cord. This will sever the cremasteric facia and muscle fibers and prevent traction on the testicle. It also makes a large opening in the reflexa. This much completed take the emasculator or ecraseur and sever the spermatic cord quickly without contamination and the operation is completed.

The reasons for using the scissors are: hemorrhage is minimized; ample drainage secured; cleanliness observed and the operation facilitated. We have not had any trouble with horses swelling after castration by this method, and, in this part of the country at least, this means much, as we nearly always have infection to combat where the owner has to assist drainage by opening the castration wound with dirty fingers.

For the reason almost any one and every one is supposed to be an adept at castration, and because so very many animals are castrated each year by gelders and recover despite crude methods, uncleanliness, for a reputable veterinarian to lose an animal from castration is a misfortune that will affect his standing in that community for years. We think that this slight modification of the methods usually employed will go a long way towards preventing such unpleasantness; and will find favor with others as it certainly has with us. The owner likes this operation as it is quickly and neatly done, and he does not have to fool with any clamps, and so on, afterward. It is particularly advantageous for mules as the percentage of so-called "water seeds" is practically nil. In our hands at least the results have been very gratifying.

WIGGS AND TRAYLOR.

Wichita Falls, Tex.

WAS IT SWAMP FEVER?

I met up with an outbreak of a peculiar disease in horses that were kept in a timber pasture along the banks of Lake Creek, near its junction with the Coon River. This stream seldom goes dry, but for a short time during the fall of 1910 and a considerable part of the summer of 1911 the water was so low that it stopped running and the pools of course were stagnant. Though it may not have any connection with these cases I wish you to note, that in December, 1909, a horse was brought from northwestern Minnesota, a swamp-fever district, and kept in a barn in this pasture during the winter and spring. The owner stated that the horse did not do well all winter and when turned on the grass instead of gaining dwindled away and died. It was given no treatment.

During July of 1910 a four-year-old horse that was in the pasture when not at work, was noticed to lose some of his accustomed vigor and thrift. The following November he was brought to the writer to have his teeth examined. These seemed all right and no cause for his unthrifty condition was discovered. A course of tonics did little good. In January, Fowler's solution helped to put him in better shape, and he was sold with his mate. The new owner complained of his unthriftiness, lack of life and endurance. April 29, 1911, a severe attack of indigestion and constipation left him able to do but little work. August 14th the writer found that he had been moping around more than usual for about ten days, losing flesh, and stocking in the legs; had had a good appetite until two days before. A more dejected looking animal than he was at this time would be hard to imagine and impossible to describe. His temperature was 106° F., pulse ninety, respiration only slightly accelerated, dependent parts badly swollen; mucous membranes a dirty yellowish white; a weak staggering gait; frequently resting on one hind foot and then the other; bowels slightly constipated; profuse urination, specific gravity 1010 with a trace of sugar.

Treatment relieved conditions to some extent for a few days only, death occurred August 24th. The only additional symptoms were hemorrhagic areas on conjunctiva and relaxed sphincters. I had no opportunity for postmortem examination.

June 21, 1910 was called to the farm first mentioned to see a bay mare, twelve years old and suckling a six-weeks-old colt. She had been noticed to be weak and losing flesh for about two weeks, although running at pasture. Her temperature 104.2° F.; pulse 95; respiration slightly accelerated; conjunctiva dirty yellowish white containing hemorrhagic areas; weak staggering gait; marked swelling of dependent parts, urination not noticed. She died June 24th. The colt was not affected.

About a month after this the owner noticed a mare about eighteen years old, that was suckling a colt and running at pasture, to be losing flesh, but thinking it was on account of the colt and hot weather, paid little attention and later unexpectedly found the animal dead.

September 7th an eight-year-old mare that had suckled a colt and run in pasture until about two weeks before, was brought to town. She seemed gaunt, lifeless, panted from slight exertion; temperature 104° F.; pulse 108; conjunctiva and mucous membrane apparently bloodless; hemoglobin of blood only about 45 per cent of normal; appetite slightly impaired; bowels constipated and a very profuse urination. A week later the writer in company with Dr. A. Beck of Auburn, visited the farm, and found the patient with the above mentioned symptoms aggravated, also swelling of dependent parts and relaxed sphincters. In the pasture, we found another eight-year-old mare and a two-year-old colt, with practically the same symptoms, but not so far advanced

Treatment was of no avail, one died the second day, the other two the fourth and fifth day respectively. The remaining horses and colts were removed from pasture and no further trouble has been experienced. Postmortem examination revealed a par-boiled appearance of all muscles. All organs, including the brain and meninges had a peculiar bloodless condition. The blood seemed very watery, even in the large veins it clotted but very slightly.

I should like opinions, as to what this disease was, and whether all the cases described had the same disease.

A. J. TREMAN, D.V.M.

Rockwell City, Ia.

IOWA REGULATES HORSE BREEDING

The Thirty-fourth General Assembly enacted a law regulating the sale, transfer, and use for public service of stallions and jacks, the last to become effective on January 1, 1912. This law provides for the examination of all stallions and jacks by a graduate veterinarian; examination to be made between the 1st day of January and the first day of April of each year.

The presence of any one of the following diseases shall disqualify a stallion or jack for public service and no certificate shall be issued by the secretary of the State Board of Agriculture: glanders, farcy, maladie du

coit, coital exanthema, urethral gleet, mange, melanosis, blindness, cataract, bone spavin, bog spavin, and periodic ophthalmia.

Stallions and jacks possessing any of the following unsoundnesses may receive a certificate but each certificate and every advertisement shall state in large type or writing that the stallion or jack is unsound and shall name the unsoundness: amaurosis, laryngeal hemiplegia, pulmonary emphysema, ring-bone, sidebone, navicular disease, curb, with curby formation of hock and chorea in all its forms, crampiness, shivering, string halt and so forth.

The enactment of this law has our commendation and we believe it will prove of value to the horse industry of the state both in the raising of a sounder, better class of colts, and also in preventing the spread of contagious diseases. In all probability had this law been operative last January, the outbreak of dourine which startled us last June would have been obviated, as it was undoubtedly due to infection of mares by a stallion that was affected with the disease before being imported from France. Had this horse been subjected to a veterinary inspection as provided for in this enactment the disease might have been discovered and the animal prohibited from service thus preventing the spread of the infection.

Another distinct sanitary advancement is to be found in the creation of a State Board of Animal Health, by the last General Assembly. The rules and regulations governing the importation of live stock into Iowa that were adopted by this board and which are now in force, affords ample protection against the importation of contagious diseases into the state, as all stock being brought into the state must be accompanied by a certificate of health from a federal, state or assistant state veterinarian, approved by the authority having charge of contagious diseases in domestic animals in the state from which the shipment is made. All cattle being brought into the state must be tuberculin tested and shown to be free from tuberculosis, and horses from states west of the Mississippi river must be accompanied by mallein test chart, showing that they are free from glanders.

A review of the sanitary situation would indicate that conditions, on the whole, the state over, are gradually improving, and other improvements will follow slowly but surely if we work for them sensibly, diligently, and conservatively, but with just enough of the aggressive spirit in view to show that we thoroughly believe our own utterances in regard to our sanitary needs, and that we are working not through selfish motives, but for what we are convinced to be for the best interest of our live-stock industry, and the people in general.

J. W. Scott.

Manchester, Ia.

CASE OF TWIST OF THE PELVIC FLEXURE

A 1300-pound dray horse came to my place in the afternoon of June 29, 1912, apparently not very sick, but showing colicky pains. I gave antiferments, stimulants and one and one-fourth grains of arecoline hydrobromide. The arecoline caused great pain but no defecation. I then gave one-half grain of atropine and one and one-half grains of morphine with negative results. Bloating was progressing so I used the trocar and secured much gas which gave temporary relief. Treatment was continued until the horses had been tapped four times, the last time more gas than ever came from him. I washed out the contents of the rectum twice with large amounts of water but no results.

Upon close examination I found the pelvic flexure highly inflated and extending well upon into the pelvic cavity. I reached over the inflated part and could feel the twist. At once I saw there was no hope of recovery except by getting the gas out of the twist. The owner was made aware of conditions. This being about fifteen hours after horse came into the hospital I was instructed to do the best I could. The rectum was cleaned out well and a trocar and canula prepared for use. I then passed my left hand into rectum, to guide the trocar and pushed it into the pelvic flexure with my right, withdrawing the trocar, leaving the canula in. The gas

began to come. This I had to do twice, before I thought enough gas was out, as the intestine would move about some.

Within an hour beginning just before the puncture of the great colon, I gave the horse three grains of eserine and one grain of pilocarpine. Very soon after the puncture, the horse began to pass flatus, and kept it up until relieved. Soon feces began to pass and in a few hours the horse was ready to eat and made a good recovery.

L. J. HERRING, D. V. S.

Wilson, N. C.

WHAT CAUSED THE PARALYSIS?

The afternoon of June 27th, was called to see a cow, probably about eight or nine years old in excellent flesh, with history that owner had noticed in morning that she did not seem very bright, and that she held the tip of her tongue out about one inch, but let her go with herd and did not see her until milking time. In the evening, when he called me, he found conditions much worse.

She was pregnant about seven and one-half months. I found the temperature 104.3° F., respiration and pulse about normal, peristalsis almost negative; tongue protruding from right side of mouth three inches, right eye blind, right ear hanging down and the muscles of the entire right side quivering. In moving, the right limbs were used like stilts, with a tendency to bear towards the right most of the time.

In examining the mouth I found that she could still retract the tongue when the head was held up, so decided to risk a physic drench of one and one-half pounds epsom salt, tincture aconite, twenty drops, strychnine sulphate one-half grain, and ground ginger two ounces, which she swallowed with some difficulty.

The morning of June 28th, peristalsis was more active, though there had been no evacuation, the temperature was 103.2° F., paralysis of right side more pronounced; tongue protruding 6 inches; the ear hanging lower; the eye glazed and the gait much more uncertain.

I gave one and one-half grains of arecoline, and one-half grain of strychnine hypodermically, and have not seen her since, as owner reported in evening that she had grown steadily worse, was down and blind in both eyes and had had no evacuation. He thought it not worth while to spend anything more on her, but would let me know if she was alive the next morning. I did not hear and suppose she died. I did not have the time or opportunity to hold an autopsy. My diagnosis was a blood clot on left side of brain, though I thought it possible to have been the effect of poisoning.

I would appreciate criticisms from my brother practitioners as it is the first case of its kind that I have run into in thirteen years of extensive cattle practice.

HEBERT HOOPES, V. M. D.

Belair, Md.

BLIND STAGGERS OR CORN-MOLD (ASPERGILLUS GLOSSUS) POISONING

On the 24th of May I was called to see a bay mare six years old and in good condition. The history of the case showed that she was sluggish and listless all of the preceding day. However, she had worked all day. On going to the barn the morning of the day I was called she was found down and it was only after many trials that she was gotten up. They were holding her in the yard and keeping her on her feet, with much difficulty on my arrival.

The symptoms that I found were: Largely dilated pupils; insensibility to light, sound or touch; temperature 98° F., pulse a little fast but very weak; respiration accelerated; marked jugular pulse, walking in a circle to the right; jaws rigid.

Diagnosis: Cryptogamic poisoning; with a guarded prognosis. Having done some research work in this disease, I concluded that here was a condition which called for cerebral and nerve stimulants and my treatment consisted of the following: Spirits of camphor 10 Cc., under the skin; arecoline hydrobromide, one and one-half grain and strychnine sulphate one-half grain followed in one hour by ten grains of barium chloride, intravenously; this produced fairly good results; at the end of two hours I gave one-third grain of strychnine and at the end of three hours I repeated the camphor.

By this time she could see a little out of the left eye; and stand somewhat straighter. I now dissolved Barbadoes aloes one and one-half ounces with two ounces of sodium bicarbonate in one-half gallon of water, passed the stomach tube and gave it. This was followed by one-half grain of strychnine every three hours under the skin. She continued improving all day and made a complete recovery.

F. M. LONG, D. V. M.

Dorland, S. D.

SEPTIC ANTHRITIS OF COLTS

Septic arthritis is one of the most dreaded diseases of young colts, one in which the most unfavorable results are obtained from treatment, one in which the veterinarian is called to treat day after day throughout the spring months and to a less extent during the summer and fall. The disease is commonly called "navel-ill," "navel rheumatism," or "limping."

The starting point is usally from being foaled in an insanitary place where the infection gains entrance through the umbilicus. In foals dropped in a clean open pasture the disease is rarely found, but it is common where mares are allowed to foal in a box stall that has never been disinfected and which harbors germs of this disease for from one year to another. Colts affected with navel-ill can generally be traced to some such insanitary foaling place.

The colt is first noticed to be a little dull when but a few days or weeks old, lies around more than usual, has slight fever, many cases show lameness in one or more legs, doing a great deal of shifting which resembles rheumatism.

When called to see a case the owner generally tells us that "The mare has stepped on it," the ligaments of some joints seem to have lost their tone with very little swelling but are painful on palpation while others are greatly enlarged and puffy or boggy. These enlargements may burst and discharge a yellowish pus and leave a wound that is very difficult to heal. Pus may also accumulate in other joints than those of the legs.

Diarrhea may be present in the beginning but is not found in all cases. The course is generally acute and lasts from a few days to about three weeks. In some cases the navel is enlarged and in others there are no signs of infection having gained entrance through this channel. In the later stages the hair becomes dry and the eyes sunken; the little patient refuses to nurse, is very depressed and is continually lying down; death is gradual.

As is the case in other infective diseases, the premises once infected should be considered dangerous until they are disinfected, which may be accomplished as follows:

Remove all litter and burn it, then disinfect the stall with a five percent solution of coal tar dip. This disinfecting should be done with a spray pump so it will reach every nook and corner; then the place is to be covered with clean straw, wash the mare's tail and the surrounding parts with the same solution diluted to one-half the above strength. Then leave her alone until she has foaled. Disinfect the cord with iodine and bandage with some antiseptic powder on the navel. This should be removed and treated again twelve hours later. If any dirt has accumulated on the navel this should be washed off using plenty of time to do so and to be sure that every particle is removed. If the colt was dropped in a dirty place it is well to inject some iodine in the urachus and to let it drain out.

I have found the following treatment for pyemic arthritis very successful. Freely open the enlarged joints, allow the liquid to escape, inject with hydrogen peroxide and when thoroughly cleansed and all pus clots removed inject some iodine and take care that it is all drained out; then paint the outside with tincture. Internally hydrargyri iodidum rubrum, potassii iodidum of each one dram, vini rectificatus two ounces, aquae q. s. to make eight ounces. One tablespoonful in one ounce of the mare's milk three times daily. If milk is not used the membranes of the mouth will be blistered. I also make an autogenous bacterin of the pus from these colts which seems to be a great help; this is injected every four days subcutaneously. If the

colt is in a very weak condition a tonic is indicated. If diarrhea is present I use sulphocarbolates compound which checks this condition in a very short time. If above treatment is carried out very carefully 85 percent of the affected colts can be saved.

S. E. NELSON, D. V. M.

Preston, Idaho.

I desire to ask through the journal the best method to prevent a cow from sucking herself. I had a patron that owned a valuable cow so afflicted. He had a handy man who split her tongue to stop her self-sucking but that does not prevent it. Is there any rational surgical operation that will stop it? A. S.

—, Minn.

FRACTURES IN BIRDS

Fractures or broken bones among birds in the poultry yards are of rather common occurrence, especially where birds are allowed the run of the farm or ranch as is the usual custom.

Fractures of the legs below the thigh are easily reduced and with good results. The materials needed for this procedure are glue, a strip of muslin from one-fourth to one-half inch wide and from one to two feet in length and in case of large birds, narrow strips of stiff pastboard or small pieces of wood like tooth picks or matches.

Warm the glue and smear a light coat of it over the leg for some distance above and below the fracture. Adjust the broken bone and apply one layer of tape, then a thin layer of glue then tape and so on until sufficient has been applied to hold the broken parts firmly. In the case of large bones as in adult birds the splints are placed in the glue between the layers of tape. Too much glue between the layers does not dry readily.

Adhesive tape cut in narrow strips has also given good results.

The repair of broken bones in birds takes place rapidly. In the course of two or three weeks, depending on the age of the bird and size of the bone the cast may be removed. To do this wet until the cast becomes thoroughly soaked with warm water and then the tape can be easily removed from the leg.

B. F. KAUPP.

Ft. Collins, Colo.

THE QUALITY OF ANTIHOG-CHOLERA SERUM

I have been taught to think that antihog-cholera serums is defibrinated and filtered blood from a hog immune to cholera. It is my understanding that this serum, to be reliable, must be free from fibrin and that it must contain no germs living or dead.

Last summer I did considerable vaccinating with serum made by the Kansas State Agricultural College at Manhattan with fairly good success. Only a few abscesses followed the injection and there was no swelling of any consequence. The ravages of the disease seemed to be checked by the use of this serum. After the College ran out of the serum and could not make it fast enough to supply the demand, I was compelled to either buy it somewhere else or stop vaccinating. I had heard of bad results from the use of serum secured from other places, and as even this serum was not causing immunity of long enough duration to satisfy a great majority of the farmers, I thought it advisable not to use other serum so I quit vaccinating.

About this time a representative of an eastern pharmaceutical house came to my office and expounded upon the great difference between the serum put out by his company and that put out by the state, telling me that the latter was not prepared with proper care and that his serum was far more reliable and that it would establish immunity for at least sixteen weeks.

I doubted his statements and told him so, and told him if his company would guarantee the results he was claiming I would use their serum. So he wired his company and had them answer by night letter. In this telegram they corroborated his statements concerning the reliability of their serum and its superiority. I therefore ordered enough for three herds and started to use it immediately upon its arrival.

The first bottle of serum worked very well, except that it was somewhat thicker than what I had been using; but as I had been told how much better this serum was I thought maybe it should be thicker. The next, however, was so thick we could not shake it out of the bottle at all. I tried another, and so on until I had about half of this man's hogs treated and then could not find any more that I could force through the syringe. I told my client that I was afraid that we had been duped on this stuff; that I was satisfied that this serum was not properly prepared.

The hogs that I had vaccinated were kept away by themselves for a while to see what the results would be. I had used the same method of vaccinating in this case that I had used in all others. I always used two buckets of disinfectant; one that I dipped my syringe into just before making my insertion, the other I used for the sponge to clean the leg at the point of injection. While using Manhattan serum I had no trouble at all with swellings at point of injection, but in this case the hind quarters and in fact both hind quarters were swelled to twice their natural size and several hogs died in about forty-eight hours after vaccination. This man lost about forty of the vaccinated hogs and none of the others. They were about seventeen miles from here so I did not get to autopsy any of them. This man did not have any infected hogs when we vaccinated, but one of his neighbors about two miles from his place was losing hogs so this man wanted to vaccinate before it got to his herd. He did not lose a single hog from cholera, all he lost, died from the use of this serum. This man who was once a good client of mine, now will not have anything to do with me, except that he wants me to pay him for forty heads of shoats that weighed on an average about 120 pounds each.

Should serum properly prepared cause the whole hind quarter to swell to about two or three times its natural size? I think not!

This summer I have used nothing but the state serum and have had no such results as in the case stated above.

This season I am not using the serum-alone method, but am using altogether the double (serum-virus) method, immunizing for life. So far my results have been good. One man for whom I vaccinated concluded that he would not give all his herd the virus, so he left about forty head with the serum injection only; of these he lost twenty-seven from cholera nine weeks later but did not lose one of the hogs that had been treated by the double method. He is now a firm believer in the "double " method.

I shall be pleased, upon request, to supply anyone interested the name of the firm that sold me the "rotten" serum.

—

[In buying antihog-cholera serum from firms that advertise in VETERINARY MEDICINE we believe you run no risk of getting an inferior product; at least we have received no reports and have no information against them.

Further it may be mentioned that it is not reasonable to expect antihog-cholera serum or sulphocarbolates compound to prevent or cure every disease of hogs. Both are of unquestioned value in their proper fields but the veterinarians must first of all properly diagnose the ailment he wishes to combat. There are two or perhaps three porcine epizootics in the country and each is frequently complicated by the other. The matter should receive careful study; read and re-read the article on "Hog Cholera and Infectious Pneumonia Differentiated," page 344 of the August issue.—ED.]

SUCCESSFUL IN CRACKED HEELS

In the May issue of your journal, Dr. J. F. Lavery asks for treatment for chronic cracked heels in race horses. I think that if he will try the following, he will find what he desires. It has produced results, for me, when other treatment has failed.

Fowler's solution.....ozs. 2
Olive oil.....ozs. 16
Fl. ex. aconite..... oz. 1

Mx. et Sig. Apply, on cotton, under Derby bandage, immediately after exercise.

This will do *no* good, however, unless water is kept from the legs. Under no

circumstances should the legs be washed or bathed. If muddy, allow to dry and remove by friction, but *keep the water away.* I refuse to touch a case unless these directions are faithfully carried out—and get the results. Would like to hear of his results after a fair trial. F. G. L.

Newport, N. Y.

OMAHA DAIRIES AMONG THE BEST

Having just received the August number of VETERINARY MEDICINE I noticed the correspondence from Dr. G. R. Young of our city. I am unprejudiced either way on the matter of our dairies but I can truthfully say that the standard of our dairies has been raised from 25 to 500 percent in the past twelve months, or since the incumbency of the present city milk inspector, who, by the way, is a layman. The man who it is claimed died of typhoid, actually died of pneumonia and this same dairy, operated at the same place, produced milk that took first prize at the United States Milk Exhibit show at Madison, Wisconsin, last spring.

I am not as fluent an orator or writer as Doctor Young but all I have said is absolutely correct.

I hope to see this in your next issue and to see no more unjust attacks on our city.

DR. C. C. HALL.

Omaha, Neb.

FRACTURE BURSATTEE AND HEAT STROKE

I believe most all of your readers especially those desiring information through your journal will approve of the new way you handle your question column, especially that of withholding the name of the enquirer. I have a few to ask and will try and answer a few.

Answering the first question in July number. The best dressing I find for a simple fracture of a leg where it can be applied is a thick plaster paris cast preceded by rubbing the part with alcohol. The animal should be kept in a sling.

A successful treatment for summer sores: First curette the wound, thereby locating and removing as many of the gritty white particles as you can find. If sore is greatly tumefied slice it down piece by piece using your curette to scrape out the white gritty substance which encloses the germ. Then apply once daily with a cotton swab equal parts formalin and alcohol. A tough scab will result. When it begins to loosen at edge pull it off and use your curette again reapplying the mixture. Keep it off sound tissue.

3. It is neither ethical nor profitable to issue calendars to clients and others.

4. I have never treated a case of sunstroke. Heat stroke is common, always preceded by staggering gait with great depression and in some cases by almost complete unconsciousness.

For heat stroke in farm horses I find the following a very successful treatment:

Cloths dipped in cold water applied to head and jugular furrow. One-half grain strychnine hypodermically. Then administered very cautiously and with a two-ounce dose syringe a drench composed of spiritus etheris nitrosi, tincture arnicae; fluid extract of pilocarpus, of each one ounce; and acetanilid, one dram; mixed in one pint water. This will usually put them on their feet in one hour.

LOUIS N. PETERSON, M. D. C.

Chicago Heights, Ill.

A TREATMENT FOR ALFALFA IMPACTION

In the August issue of VETERINARY MEDICINE I noticed an article by Dr. W. H. Spencer on impaction of the large intestine caused by cane and kaffir-corn hay.

In this section of the country we do not have impaction from those feeds, but have a great many cases caused by alfalfa hay and I think the same line of treatment can be used in both instances.

I believe Doctor Spencer followed the wrong line of treatment when he started in with arecoline as I find it will almost invariably cause a rupture of the intestinal wall around the obstruction. The line of treatment I use is as follows:

First I administer a quart of raw linseed oil to which has been added an ounce each

of carbonate of ammonia and turpentine. I repeat this in ten hours or give magnesium sulphate in one pound doses. I keep up the stimulants also. The pain I control with morphine or H-M-C subcutaneously.

I have given as much as one gallon of oil and three pounds of magnesium sulphate before purgation started. I do not give arecoline until I have the obstruction softened and then only to help expel the mass more quickly.

I think a mistake is often made in these cases by not waiting for the slower-acting drugs to get in their work. In these cases patience counts for much.

E. A. MEYER, D. V. S.

Brush, Colo.

SUNSTROKE

Under this heading is meant a prostration of the nervous system with a great increase in bodily temperature due to excessive heat. This condition is of great economic importance in the larger cities where the loss from sunstroke during the summer months is very large.

Two principal forms of this disease are recognized: heat exhaustion, and heat stroke.

Heat exhaustion is due to prolonged exposure to high temperatures. The symptoms are those of collapse, restlessness, and extreme exhaustion. The pulse is small and rapid, and the temperature usually subnormal. This form is of minor importance, as the writer is of the opinion that it is very rare in the domestic animals, not a single case having been recognized in over one hundred and fifty cases of overheat which I have treated.

Heat stroke or Thermic Fever is a common form of sunstroke in the horse. Here the symptoms are those of languor, dizziness, sweating, and the horse usually then falls suddenly to the ground. There is a very high fever, the temperature reaching 110° to 112° F. or even higher. The skin is very hot, pulse slow and full, or quick and jerking. The mucous membranes are at first congested and then cyanotic. The animal lies in a stupor, or coma, being partially or totally unconscious, but in some cases may show delirium.

The *differential diagnosis* of heat exhaustion from thermic fever is readily made as the difference is striking. In heat exhaustion the pulse is small and soft, the breathing is easy though hurried, the skin is moist and cool, and there is a subnormal temperature. In thermic fever there is a high fever, the skin is hot, pulse usually quick and jerking, and there is partial or total unconsciousness, while in heat exhaustion the animal is in full control of its senses.

Prognosis. The mortality rate is very high but the prognosis depends largely on the possibility of prompt and skillful medical treatment. Horses which recover are usually unfit ever afterwards for hard work in warm weather. The most common and troublesome sequel of sunstroke is laminitis.

Treatment. The first and primary indication in an ordinary case of heat stroke is to reduce the temperature nearly to normal. This is done by the use of cold water all over the body, and not over the head alone as has been recommended. At the same time, that this is being done, stimulants as strychnine sulphate, gr. 1-2, subcutaneously or oil of camphor, one ounce, subcutaneously, should be administered, and aromatic spirits of ammonia is given in a capsule by the mouth. The animal should be kept perfectly quiet and not moved more than absolutely necessary. The intravenous injection of normal salt solution on the second day after the attack will hasten recovery.

A. C. WIGHT, D. V. M.

Pittsburg, Pa.

A RARE CASE OF PARTURIENT PARESIS

I had a case recently of more than passing interest to me on account of its rarity. A call was received to make all haste to a farm about six miles away, to attend a sick cow, which was hardly expected to survive until my arrival. I found a large animal, in a comatose condition, the only evidence that life still existed was a labored respiration at intervals, succeeded by a slight moan. The animal had assumed the characteristic position associated with parturient paresis, the temperature was below

normal, and the pulse barely perceptible. The rectum contained the peculiar hard feces flecked with blood, common to such cases. I would have been confident that a diagnosis of parturient paresis was correct had I not by inquiry ascertained the following contradictory evidence.

The cow had calved fully two months previously and the owner proudly exhibited her offspring which, from its size and development I would have taken to be much older. Another misleading fact was his statement that the cow received no grain and that the pasturage which was her sole means of sustenance was inferior both in quantity and quality, being a tract of wild, swampy, stump land, common in this section of Michigan and the cow, while in fair flesh, was far from being fat.

However, the symptoms, notwithstanding the contradictory history so strongly implied milk fever that I resolved to administer the treatment. I inflated the udder and administered two one-half-grain doses of strychnine hypodermically, one immediately and the other after an interval of an hour and in about two hours the cow was upon her feet, after which the usual rapid recovery followed. Some good authorities deny the possibility of milk fever so remote from the time of parturition, but in my estimation the diagnostic symptoms shown, together with the rapid response to the treatment conclusively prove it to have been a clear case of parturient paresis.

Another important fact which I omitted was that on the previous day she had been in heat, but had not been permitted the services of the bull. Could this have had any bearing from an etiological standpoint upon the attack? B. W. TRUAX.

Lake View, Mich.

TELL WHY YOU FAVOR IT, OR YOUR OBJECTIONS TO IT

Please express your ideas upon the use of turpentine hypodermically in the treatment of atrophy. What strength best to use and what agent is preferable for diluting it?

VETERINARY MEDICINE gets better with each copy. I could not get along without it.

H. H. HUBBARD, D. V. M.

Scottsville, Kan.

1. What is the specific name and treatment of a skin trouble in a horse characterized by small swellings on neck and back and side similar to those of urticaria, but not particularly itchy? They have reappeared three different times this summer.

2. Will subiodide of bismuth harm a dog if he licks it from a wound?

3. What is the technical name of a condition in cows referred to as "dry murrain"?

CONJUNCTIVITIS IN CHICKS

From the Laboratory of Pathology, Colorado Agricultural College, Division Veterinary Medicine

This summer has brought with it some troubles to the chicken raiser. There has been considerable complaint of "sore eyes" among the young chicks of from a few days to a few weeks of age. One case in an adult hen was brought to the laboratory.

This condition, so far as we have made observations, responds to a one-percent solution of zinc sulphate in distilled water. One drop should be placed in the conjunctival sac, by aid of a medicine dropper, morning and evening.

B. F. KAUPP, *Pathologist.*

TUBERCULOSIS RAISES INSURANCE RATES

While state commissioners and other bodies are trying to find a method for reducing the cost of life insurance, Prof. James W. Glover of the University of Michigan demonstrates that every policyholder of a $10,000 ordinary whole life policy could save about $20.00 a year on his premiums if tuberculosis and typhoid fever were eliminated. Tuberculosis alone causes a loss to such a policyholder of from $16.70 at age 20 to $17.70 at age 60. At age 20 with the present high death rate from tuberculosis, this one disease alone shortens the complete expectation of life by two years and 158 days. While the death rate from tuberculosis seems to be declining, the National Association for the Study and Prevention of Tuberculosis says that the combined effort of every man, woman and

child is necessary to bring about a radical reduction in life insurance rates such as Professor Glover has indicated.—*Bulletin, Chicago School of Sanitary Instruction.*

THE WELL THAT IS NOT WELL

It has been our observation that the average "hole sunk into the earth to reach a supply of water" is anything but "good in condition, desirable, or not ailing." Rather such holes are sinks of iniquity; places from which you get all sorts of unexpected things mixed up with some water.

Let us consider the average farm well. On the average farm we find it dug, often shallow dug, in close proximity to the privy vault, to the pig sty, to the slop ditch, or to the manure pile at the barn-side. With every rainfall the unspeakable filth from these places and wastes is washed overground or through the earth to the well. Instead of being a receptacle for pure water it becomes the receptacle for every possible kind of filth in liquid form.

Many people have an idea that in the process of being strained through the ground all liquid which seeps into the well is cleared or filtered of everything harmful. Such an idea is far from correct. What really does happen, and unfortunately too, is that visible filth is removed in the process of ground straining, while the more harmful invisible filth remains. We say that it is unfortunate that the visible filth is removed; if it remained it would effectively serve as a warning against the use of that water.

So as to all water in general, and as to well water in particular, bear this thought in mind—all is not pure that sparkles.

It behooves every man and woman going to summer resorts or to country places for vacation periods to acquaint themselves with the kind of water they must drink. At a large number of these places the water is vile, and that's the chief reason why so many of our citizens return to their homes following vacations with attacks of typhoid fever.

There are two ways to treat water to make it safe for human consumption. One way is to *boil* it for three minutes and store it in sterilized bottles in cool places.

The other method of treatment is as follows: Dissolve a teaspoonful of chloride of lime in a cupful of water, making sure that all lumps are thoroughly broken up, then add three more cups of water. Stir the mixture well and allow to stand for a few seconds in order that any solid particles may settle. This mixture, if kept in a tightly stoppered bottle, may be used for four or five days, when a new solution should be prepared. Add one teaspoonful of this milky-looking solution to each two gallons of water to be purified and stir thoroughly, in order that the weak chlorin solution will come in contact with all the bacteria which may be present. Allow this to stand ten minutes. This will give, approximately, one-half part of free chlorin to a million parts of water and will effectually destroy all typhoid and colon bacilli or other disease germs in the water. The water will be without taste or odor and the trace of free chlorin will rapidly disappear.

The last described method is one which is now being recommended in the health literature of the country. On account of its simplicity, effectiveness and small cost, it is particularly well adapted for use by private families, campers and those living in summer resorts.—*Bulletin Chicago School of Sanitary Instruction.*

While observing a rabid dog, Dr. L. J. Kutzenberger, Jerseyville, Illinois, was bitten. The wound was cauterized immediately and the Pasteur treatment used. The Doctor is doing well.

THE COCAINE SUPPLY

The world's supply of the deadly "coke" comes from Peru, Java, and Ceylon, the amount produced in other countries being insignificant. According to De Jong, the world's consumption of cocaine in 1910 was 12,000 kilos (26,400 pounds). Java exports only leaves, which are taken by the large European factories. The Javan leaves contain very little cocaine, so that it does not pay to work them up where they are grown; but they are rich in other ecgonine bases, which are easily converted by chemical means into cocaine. The quantity of coca exported from Java has grown enormously within a few years. The Dutch planters have put the cultivation of the coca shrub in such a thriving

condition that they look forward to the practical suppression of the Peruvian production. In 1904 Java sent 57,000 pounds of leaves to Holland and Germany, which handle the entire output. In 1908 the exportation reached the enormous figure of 1,026,000 pounds, an eighteen-fold increase in four years. The Ceylon leaves contain more cocaine than the Java variety, and are therefore more esteemed for the manufacture of galenicals, and command higher prices. The exports from Ceylon were 68,000 pounds in 1909.

The greatest producer of crude cocaine is Peru, which, in 1907, is credited with 6,000 pounds, representing about 1,200,000 pounds of leaves. Peru also ships the coca leaves as such, but the largest proportion of the crop is converted into the crude alkaloid where it is grown. This results in a great saving in transportation, as the average percentage of cocaine in the leaves is only about 0.5. The process of manufacture in Peru is rather primitive, and the impure product is sent to Germany for purification. The leaves are first soaked for four days in four changes of dilute sulphuric acid (one-half of one percent), and the liquor is passed through a screen. It is then made alkaline with sodium carbonate (the use of stronger alkalies must be avoided, as they convert the cocaine into the less valuable ecgonine bases), and it is extracted by stirring gently for three or four hours with petroleum. The oily layer is next washed with water, to remove traces of free alkali, and the cocaine is then obtained in impure solution by shaking with dilute acid for thirty to forty minutes. The alkaloid is precipitated by adding sodium carbonate solution, and is allowed to settle for twelve hours, after which it is collected, washed, and pressed out into a soft mass containing from 87 to 93 percent of cocaine. If the mass is brownish, the purification with acid and alkaline carbonated is repeated. A small factory, employing four or five workers can produce one kilo (2.2 pounds) of crude alkaloid every twenty-four hours, at a cost of between $21 and $23 per pound, depending on the price of leaves.

Coca leaves suffer rapid deterioration in transport, the damp, warm holds of the vessels sometimes causing complete hydrolysis of the cocaine into benzoyl-ecgonine or ecgonine. These substances are extracted in the European factories, and are then methylated or benzoylated, re-forming, methyl-benzoyl-ecgonine, or cocaine. For this reason, a large amount of the cocaine on the market must be regarded as partially synthetic, which, however, does not reduce its value or action.

—*The Spatula.*

NO SLAUGHTERING ALLOWED

No slaughter houses will be allowed to operate within the limits of Bay City. The board of health has clamped the lid down by passing an ordinance to this effect. The ordinance goes further by providing that only meat butchered by the farmer who raised it shall be inspected by the county inspectors and marketed in the city. Government-inspected meat from the large packing-houses is, of course, admissible.

The board's action is the most drastic taken by any city in the state and followed a stormy session in which George Zimmer sought permission to reopen his slaughter house, closed on the order of Health Officer Goodwin.

"I challenge you to find a more sanitary slaughter house than mine in Bay City," shouted Zimmer to Meat Inspector L. H. Hatch of Saginaw, who was brought here by the board of health to look over his plant and made recommendations as to what the board should demand before permitting him to reopen.

"I have been through all of them," answered Hatch, "and candidly, I must say yours is the worst I have ever seen."—*Saginaw* (Mich.) *News.*

$5,000,000 IN FAKE CONSUMPTION CASES

That Amount Reaped Every Year by Quacks, Who Often Injure Their Dupes

Over $5,000,000 is annually poured into the coffers of those who exploit and advertise "fake" consumption cures, according to a statement issued by the National Association for the Study and Prevention of Tuberculosis.

The report stated that for this vast sum the victims receive nothing in return, but are often permanently injured, and in many cases deprived of the chance for a real cure—*Associated Press.*

VETERINARIANS ON BLACKLIST

Dr. S. Sheldon, state veterinarian, Columbia, Missouri, has placed two Illinois veterinarians on the black list and has notified them that their certificates of testing cattle will not be accepted in Missouri. The reason is that in one herd tested by one of these men 50 per cent were found to be tubercular. The other man had passed several such cattle as being free from the disease.—*St. Joseph,* (Mo.) *News-Press.*

SEEK TO BECOME VETERINARIANS

Dr. S. B. Nelson, State veterinarian, and Dr. Golda, instructor in the Washington State College at Pullman, grilled the nine candidates for veterinary science certificates at the college hospital on Indiana Avenue. The candidates are Theodore Beletski, Robert J. Donohue, John J. Stratton, Thomas B. Hauschild, P. H. Dirstine, J. Cecil Thompson, Robert Prior, R. E. Baker and G. W. Clark.

—*Spokane* (Wash.) *Review.*

NINE veterinarians were licensed by the state board of veterinary medical examiners at the semi-annual meeting in the old capitol yesterday as follows: R. H. Apitz, Amboy; C. M. Bolstad, Appleton; B. L. Currier, Stevens Point, Wis.; H. G. McGinn, Brainerd; W. M. McLaughlin, Rush City, ; M. Tilkey, Rainy River, Ont.; P. Sanders, Browns Valley; C. L. Tompkins, Arlington, and J. E. Wentworth, Rochester.—*Minneapolis* (Minn.) *Journal.*

VETERINARIAN TO STUDY ABROAD

Dr. Thomas E. Munce, deputy state veterinarian, has sailed for Europe, accompanied by Mrs. Munce, it being Dr. Munce's intention to take special instruction at the University of Edinburgh with reference to meat inspection, of which branch of the state service he has considerable to do. He will also study the methods used in meat inspection in Holland, France and Germany, especially

municipal abattoirs. He will also note what is being done in Belgium and the British Isles. The information he will obtain will prove very advantageous in the state meat inspection service. Dr. Munce is a resident of Washington, Pa.—*Pittsburgh* (Pa.) *Gazette & Times.*

MAN DIES OF GLANDERS

The epizootic of glanders, which has been assuming alarming proportions in this borough, and against which the local authorities have been waging a vigorous fight in an effort to stamp it out, claimed its first human victim recently. He was Henry Stimper, believed to have been a tramp. Death overtook him in the German Hospital, where he had been a patient for nine days. This is the first case of human glanders which has come to light in this borough for more than four years.

—*Brooklyn* (N. Y.) *Eagle.*

VETERINARY SURGEON KILLED ON CIRCUS TRAIN

Dr. Michael Grogan, who was killed recently by an Oregon Short Line train near Divide, was a veterinary surgeon connected with the Sells-Floto circus. Dr. Grogan was killed by falling between two cars of the circus train and his body was ground to pieces. He endeavored to go to a forward car to extinguish a small fire in some canvas, which had caught from a spark from the engine. He missed his footing. The train was stopped immediately and the body picked up. Doctor Grogan was 38 years of age and has relatives in the East.—*Butte City* (Mont.) *Miner.*

A BOOST FOR CEDAR RAPIDS

The state veterinarian, Gibson, is out in an interview, stating that Cedar Rapids leads all the cities in the state in the matter of protecting people against tuberculosis through inspection of the milk and the testing of the herds. Now, there is something for the boosters to take hold of. That is an excellent advertisement for the fine city. People looking for a home somewhere in the Middle West will be attracted by that fact. They will necessarily reach the conclusion that Cedar Rapids is protecting the health of her people in every other conceivable manner, and that it is a good town in which to live.

—*Burlington* (Ia.) *Hawkeye.*

CEDAR RAPIDS COWS INSPECTED

Dr. G. W. Blanche of this city, assisted by three other veterinarians, inspected the dairy cows of Cedar Rapids recently. It seems they have been having trouble with their milk supply, and the state veterinarian selected Doctor Blanche to investigate the dairy cows, giving particular attention to tuberculosis. Dr. A. R. Menary of Cedar Rapids looked after the practice of Doctor Blanche during his absence.—*Union*, Belleplaine, Iowa.

INTRADERMAL TEST IS BEST

That the method of testing cattle for tuberculosis employed in Missouri is the most effective of any State in the Union and that the Federal Government soon will abandon the temperature test to adopt the intradermal test, as used in Missouri, were declarations made to a *News-Press* reporter last night by Dr. Samuel Sheldon, State veterinarian of Missouri. Doctor Sheldon came here recently from Columbia to witness the killing of nine condemned cows. All of the animals were found to be tubercular, and only one was deemed fit for food consumption. The cows were slaughtered at a South St. Joseph packing plant.

—*St. Joseph* (Mo.) *News-Press.*

TUBERCULIN TEST FOR COWS

Dr. C. G. Warner, city meat and milk inspector, returned Wednesday from Louisville, where he had been in consultation with Dr. McCormick, president of the state board of health and Dr. Graham, state veterinarian.

Blanks and necessary supplies for making the tuberculin test in accordance with the provisions of the state laws and city ordinances will be sent Dr. Warner within a few days.

When a diseased cow is found in a dairy herd that cow is killed and the dairyman paid the regular beef price for her. A post mortem examination is then made and if the disease is found to be local, the injured part is removed and the cow sold for beef. If the disease is general the carcass is condemned.—*Paducah* (Ky.) *Democrat.*

TUBERCULOSIS PREVALENT AMONG COWS

Investigations conducted by local veterinaries have revealed the fact that scores of milch cows in the country districts, which are supplying Altoona with milk are suffering from tuberculosis, either in the incipient or chronic stages. While few of the bovines have the disease in an advanced stage, yet a prominent local cattle dealer declared last evening, that his investigations have revealed that many cows in the dairy herds would be condemned by the state live stock and sanitary board if an exhaustive examination were performed.—*Altoona* (Pa.) *Times.*

NO TUBERCULOUS CATTLE HERE

County Veterinarian Pouppirt has just completed his reports for the year. Of particular interest is his statement that Tulare county dairies are free from tubercular cattle. Assisted by State-Veterinarian Keane he has tested over 2000 head of dairy cattle and other veterinarians have tested as many more. Dr. Pouppirt maintains that this immunity is due largely to the rigid quarantine which has been maintained and advises that the same regulations be kept in force for the ensuing year. Under the terms of this law all cattle shipped into this county must be accompanied by a certificate from a competent, registered veterinary surgeon, setting forth that the animals are free from tuberculosis or other communicable disease.

—*Los Angeles* (Cal.) *Times.*

VETERINARIAN DOESN'T MILK

The work of testing the second herd of city cattle for tuberculosis will continue. Milk Inspector L. M. McCormick of the City Health Department has the matter in charge, and the work of testing the first fifty cows that were presented for examination has been completed.

Mr. McCormick stated that the city will feed and water the cows, although it will expect the owners of the cattle to send for the milk, as the Health Department will not be responsible for it. The work is progressing nicely, and the cows are said to be in excellent condition.

—*Asheville* (N. C.) *Citizen.*

QUININE IMPORTS OF THE UNITED STATES

Nearly fifteen million dollars' worth of quinine and the material from which it is extracted has been imported into the United States during the past dozen years. Figures compiled by the Bureau of Statistics, Department of Commerce and Labor, show that in the period 1900-11, inclusive, fully 40 million ounces of quinine and nearly 50 million pounds of cinchona and other quinine-bearing barks have been imported, their aggregate value being about 14 million dollars. In the current fiscal year the imports of cinchona bark will probably be about 3½ million pounds, valued at about one quarter million dollars; and of quinia and its various salts, three million ounces, valued at approximately a half million dollars.

While quinine has long been a staple product of importation into the country, no marked growth in its imports has occurred in the last quarter of a century. In 1882, for example, over five million pounds of cinchona bark were imported; in 1892, 3½ million; in 1902, 3¾ million; and in 1912 will probably be about 3½ million pounds. In 1882 the imports of quinine and the various salts of quinine amounted to 795,000 ounces; in 1884, 1½ million ounces; in 1892, 2 5/6 million; in 1902, 2 5/6 million; in 1906, 4 3/4 million; and in 1911, 3¼ million; while at the rate of importation in the nine months of the current year for which figures are at hand point to a total of about three million ounces in the twelve months ending with June.

Meantime the price of quinine has steadily fallen. In 1882 the average import value per ounce was a little less than $2; in 1902 it had dropped to 28 cents, and in the first 9 months of the current fiscal year was but 15 cents. Likewise cinchona bark, the botanical source of quinine, has dropped in average import value per pound from 36 cents in 1882 to less than eight cents in 1912.

The decrease in imports of quinine, despite the growth in population meantime, is ascribed to a variety of causes. Among them may be mentioned improved conditions of sanitation and drainage throughout the country, thus decreasing the prevalence of malarial and other fevers for which quinine has long been known to be a specific and in the treatment of which it was formerly the chief reliance. The drainage of swampy districts, the better screening of homes, and the discovery of the relation between mosquitoes and fevers generally have had a large part in reducing the prevalence of diseases for which quinine was and is still largely used, while the development of the chemical industry has brought into use a large body of coal tar and other preparations which share with quinine its popularity as a remedy of fevers and as a general tonic in professional and domestic practice.

Cinchona, or Peruvian bark, is the generic name of a number of trees indigenous to Peru, Eucador, and Bolivia, formerly the chief producers of that article. In the 17th century, however, it was first imported into Europe, where its value was quickly recognized and its use largely extended. Later the cinchona tree was transplanted from South America to Java, India, Ceylon, and certain other countries, and its cultivation developed until Java and the British East Indies have become the world's chief producers of cinchona bark. With this development of its culture in the Orient has come a marked change in the source of the cinchona bark imported into the country in the last thirty years. Back in 1882 when the annual imports exceeded five million pounds, nearly three million pounds were imported from Colombia, 1 1/3 million from England, about 600,000 pounds from South America exclusive of Colombia, 106,000 pounds from Mexico, and smaller quantities from the British West Indies, the British East Indies, Central American States, France, Germany, and the Dutch West Indies. In more recent years, however, Netherlands is nominally the source of practically all the cinchona and other quinine-bearing barks imported. In the fiscal year 1911 the total imports of the class named were 3,826,000 pounds, of which 3,769,000 were stated as from Netherlands, nearly 38,000 from Germany, and the remaining 19,000 from England. Presumably a large part of the cinchona imported from Netherlands is from Java, whose exports of that article, chiefly to Netherlands, amounted to 18 million pounds in 1910.

Germany is the great source of the quinia and the various salts extracted from cinchona bark imported into the United States. Of the 3,219,000 ounces imported in the fiscal year 1911, 1,958,000 ounces came from Germany, as against 946,000 from Netherlands, 207,000 ounces from the Dutch East Indies, 83,000 ounces from England, and 25,000 ounces from France.—*The Spatula.*

INFLUENCE OF PREVIOUS IMPREGNATION OR TELEGONY

A phase of credulity somewhat difficult to account for in an age of considerable doubt and questioning in certain directions pertains to what is scientifically termed "telegony," or the influence of a previous impregnation in a female on a later offspring.

The notion got out and was given large currency by what was quoted as a fact by Darwin, that a certain mare produced a foal by the striped animal known as a quagga, and that after thus bred to horses of a solid color she continued to produce colts showing the quagga stripes, and this led to the conclusion of an influence impressed in this manner to show up ever afterwards. It was taken up as a real thing and horse breeders and dog breeders particularly set great store by it.

In the last week attention was called to the owner of a very valuable female of the canine kind, the puppies from which chanced to be mated with a cur, when the owner regarded her as forever ruined and gave her away to some colored boys for a plaything. Occasionally a mare bred to a Jack is looked upon as polluted or ruined for later use in horse breeding. But in every such instance there is absolutely nothing whatever to it, according to the best light known to science.

The case quoted by Darwin had a vast deal of doubt connected with it, and was the basis for the entire conceit as far as given any recognition, and remains totally unsupported by further fact or observation of creditable character. It was one of those deductions made without foundation of fact to support it, and has traveled now for nearly a century, though disproven on all hands scores

and scores of times possibly in the observation of nearly all giving attention to such matters.

A splendid young registered, standard mare bred to a Jack under our observation produced to sires of her own kind without trace of evil effect. A fine blooded greyhound whelped to a bird dog a large lot of puppies and her next litter from a noted English greyhound produced a champion in the coursing field, and a large litter all perfectly marked after their kind. So it could be shown that this is happening all the while.

Coincidents sometimes will occur, giving rise to such speculative conceits, but one swallow does not prove a summer has come. It would need to recur as a rule to prove anything, and as unscientific as it is on its face would need the stoutest support in fact to back it up. As it is, no versed students of hereditary problems accept it as anything else but a legend, or superstition—an exploded conceit, not worthy a moment's thought.

It is too bad that sensible people will be led by such baseless notions to discard valuable animals, and go on propagating such fallacies. Nature's reproductive agencies are mighty well guarded, and are not despoiled by any ordinary happening and particularly as extraneous as the matter in discussion naturally is. Let it be no longer conceded for an instant that there is the least thing in the entire conceit, or tales connected with it.

—*Spirit of the West.*

FALSIFIED TUBERCULIN TESTS

Dr. Chas. Stewart of Chariton, and Dr. R. F. Kelso, of Corydon, assistant state veterinarians, have been very active of late, and have been doing some good work in tracing down the source of tuberculosis in this and Wayne county, and stamping it out according to the rules laid down by the State authorities. A stockman in Illinois had shipped almost a hundred head of diseased animals into Wayne county, under a bogus inspection report, and the State veterinarian became aware of it and notified Drs. Stewart and Kelso to look the matter up and if possible trace the animals and test them. They have been successful and as fast as they were found and tested the diseased ones were shipped to Ottumwa and slaughtered. This led to an investigation in other herds, and they found traces of the disease elsewhere and the same drastic rules were applied.

The value of this quick action can not be overestimated as to have let the matter alone soon other herds would have become inoculated. As it is, the cattle of Wayne and Lucas counties will be practically free from the blight.

—*Charilon* (Ia.) *News.*

CENTRAL PASTEURIZING PLANTS COMING

Bracken Suggests Means to End Typhoid Epidemics—Calls Present Inspection a Farce

"A license to live" for each cow in the State, is advocated by Dr. H. M. Bracken, secretary of the State Board of Health. A cow either must have this license or be killed, if the recommendation of Dr. Bracken is adopted. The suggestion followed a report from Anoka that the recent typhoid epidemic resulted from infected butter.

Commenting on the situation, Dr. Bracken said that there is great need of State and Federal inspection of dairy cattle, to prevent disease germs being spread. He cited the Anoka epidemic as an example. There, according to Dr. A. J. Chesley, who made the investigation, a young woman afflicted with walking typhoid and working at a dairy farm, handled the butter which spread disease among residents of that little town. Forty cases of typhoid resulted, among which were six deaths.

"The time is coming," said Dr. Bracken, "when all cities will have a central pasteurizing plant, at which all commercial milk must be brought before being sold. Either this will be done, or only those whose herds have been officially approved will be allowed to market milk."

Dr. Bracken says that under the present laws, inspection of milk and butter is little more than a farce.

—*St. Paul* (Minn.) *Dispatch.*

SIX PERCENT TUBERCULOUS

Dr. H. Chadwick, veterinarian of the City Board of Health, reports that his examinations thus far have disclosed tuberculosis prevalent in about six percent of the cattle in the dairies surrounding Jackson.

"During the past two weeks I have condemned five dairy cows for tuberculosis, and issued instructions to owners not to use them for milk supply any longer," says Dr. Chadwick.

"It will take me about thirty days longer to complete the examination and tuberculin test of all cattle in the dairies adjacent to the city. Some of the herds have been shown absolutely free from the disease. We are unfortunately handicapped by the fact that there is no law, either State or local, providing for the immediate slaughter of cattle infected with the disease. I can only give orders to owners not to sell any more milk from such cattle, but they ought to be killed at once, as the most effective means of preventing a spread of the disease."—*Jackson* (Miss.) *Sun.*

FINED FOR SELLING SICK HOGS

"We, the jury, empaneled and sworn, do upon our oaths find for the plaintiff and assess the amount of his recovery at $2875.00."

Thus reported the jury in the celebrated case of H. T. Cheesman Vs. John and Allen Felt, lately.

Part of the award of damages was to reimburse Cheesman for actual damages and two thousand dollars was added as punitive or exemplary damages for wrong to society in general.

The case of Cheesman against the Felts has been one of large interest to the people of the county. Cheesman lives at Milan and makes his living buying and selling hogs. Last July John and Allen Felt sold 70 head of hogs to Cheesman through G. W. Hough of Milan. They were infected with cholera and many of them died, also a number of the Cheesman herd with which they were mixed.

Cheesman introduced testimony to show that the Felts rounded up all of the saleable hogs which showed no illness and sold them, careless of the strict criminal statute of the state which provides a heavy punishment for selling hogs infected with cholera.

The Felts claimed that while there was some sickness among the herd they did not suspect cholera but supposed it was caused by the animals eating cockleburrs. It was not denied that the

Felt hogs had cholera because Dr. A. A. Shetler opened one of them and stated the trouble. But the Felts denied knowing of the malady or suspecting it before the sale to Cheesman.—*Wellington* (Kans.) *Daily News.*

TUBERCULIN TESTS INACCURATE

Charges of unfairness in the administration of the State Sanitary Board characterized the meeting of the Wisconsin State Veterinary Society, held at the Republican House. That the State is allowing students at the University of Wisconsin to examine stock infected with tuberculosis and that hundreds of animals are yearly slain because, it is said, they are infected when they are healthy and is resulting in unnecessary losses, was charged. —*Milwaukee* (Wis.) *Sentinel.*

VACCINATE HOGS AGAINST CHOLERA

Serum for the prevention of hog cholera, which has been in the course of manufacutre at the college of agriculture of the university during the past few weeks, is now ready for distribution to the farmers of the state.

The university authorities want to render all the assistance possible to those whose animals are in danger and have employed a specially trained field man to aid farmers in controlling hog cholera. —*Janesville* (Wis.) *Recorder.*

CHEAPER TO LET HOGS DIE

In the hog yards of Martin Smith, superintendent of the municipal farm at Porterville, cholera first made its appearance and within forty-eight hours Smith has lost forty head. He is almost certain to lose thirty more. The heaviest losers are the McClures, owners of a ranch near Smith, and they have thus far lost sixty animals.

Government serum has been procured, but it has been decided that it is cheaper to let the hogs die than it will be to use the Government treatment. The cost of the treatment is $2.50 per head, and if the animal recovers it will require four to six months to get them back into condition again. As a result of which practically all of the owners have decided not to use it.

From present indications the epizootic will kill every animal in the Westfield district.—*Los Angeles* (Calif.) *Exam.*

FIRST ANIMAL HOSPITAL

One Was Established in India Over 2,000 Years Ago

The New York women who have opened a free animal dispensary in this city are regarded as pioneers in a good work. As a matter of fact one must go to the Orient and look back more than 2,000 years to find the first animal hospital known.

The famous Buddhist emperor of India, Asoka, whose long reign from 264 to 227 B. C. abounded in many good works, was probably the earliest to establish a hospital for the treatment of animals, says *Our Dumb Animals.* Asoka was a true humanitarian as well as a most powerful sovereign, and although ruling a vast domain, became deeply impressed by the horrors of warfare.

He gave up his desire for conquest and the rock inscriptions, which are still extant, record such beneficent edicts of his as the counseling of planting shade-trees, the digging of wells, sending out of missionaries, appointment of special officers to supervise charities, the establishing of hospitals for human kind and animals.

It is of interest to know that the last remaining of Asoka's hospitals was devoted to animals. It covered twenty-five acres and was divided into proper wards and courts for the accommodation of the patients. When an animal was sick or injured its master had only to bring it to the hospital, where it was cared for without regard to the caste of its owner, and where, if necessary, it found an asylum in old age.—*Columbus* (Ohio) *Journal.*

WILL ENLARGE HORSE HOSPITAL

Drs. B. W. Castle and H. A. Sutherland, veterinary surgeons, are planning to build an extensive addition on their horse hospital in East Fisk street. When completed, the infirmary will give accommodations for 30 sick horses and plenty of room for ailing dogs and cats.

A Conkey operating table is being constructed for the infirmary and when this is installed and the addition erected, the place will be complete in every detail.

The hospital is a place that is doing much good in the city, but of which Ashtabula people know little.—*Union Record,* Ashtabula, Ohio.

BOYS DIE OF ANTHRAX

Charbon is beginning to get in its work in Acadia parish, where conditions are fast assuming an alarming phase. Medlenka & Lawson lost nine head of cattle last week from the disease in its worst form. The two small sons of Mr. Bud Jones, and employee of Medlenka & Lawson, have contracted the disease and are in a serious condition. The boys contracted the disease from fly bites while their father was skinning the dead cattle, not knowing the cause of their death. Doctors say it is short of a miracle that Mr. Jones did not contract charbon. As soon as the nature of the disease was learned the carcasses were burned and disinfected. Every precaution is now being taken to prevent further spread of the disease. It is said to have gotten a bad hold both upon mules and cattle in the southeastern part of the parish.—*New Orleans* (La.) *State.*

ELIGIBLES ALWAYS ACCEPTED

Dr. J. Arthur Goodwin, president of the Louisiana State Board of Veterinary Medical Examiners, of New Iberia, La., discussing the defeat of the veterinary bill in the House, gave out the following:

"The news items appearing in issue under the heading 'Veterinary Bill Put to Sleep,' in which it was stated that the object of the bill was to let eight or ten worthy eligibles come in under the law, and to break up a closed corporation in New Orleans and the State, is misleading and unfair to the Board.

"That the measure was put to sleep by a sweeping vote would of itself indicate that the members of the House did not subscribe to the view as given above.

"The Legislature of 1908 passed a law regulating the practice of veterinary medicine and surgery and created a Board of Examiners composed of graduates of organized and recognized veterinary

colleges, this board to examine into the qualifications of all persons desiring to practice in the State.

"The words 'worthy eligibles' and 'closed corporation' would lead to the belief that there are a number of persons denied the right to practise who are justly entitled, and that the board has formed itself into a body, the chief purpose of which is to keep any an everybody from engaging in veterinary practice. It is conceded that eligibility to practice in any profession is based on the possession of the required knowledge and training, and as for the imputation that this board is a 'closed corporation,' we submit that the records will show that every candidate for license to practise successfully passed the examination held on June 12 last. The records will also show that up to date nearly 80 percent of all applicants for license have passed the examinations, which, we hold, will compare favorably with the number accepted by the other examining boards of the State."

—*New Orleans* (La.) *Picayune.*

FEAR RABIES FROM MILK

Fifteen residents of the village of Hyattsville are under treatment at the Public Health and Marine Hospital for rabies as a result of a panic that struck them when it was discovered that they had been drinking milk from a cow owned by P. M. Radcliffe, which died last Saturday. Dr. Fred E. Davis, a veterinarian, and other experts were of the opinion that the cow died of rabies.—*Washington* (D. C.) *Times.*

SPREAD OF RABIES DECLARED ALARMING

Following a report from Dr. R. H. Mullin, director of the state board of health laboratory that the spread of rabies in the twin cities and surrounding territory is "alarming," Dr. H. M. Bracken, secretary of the state board, will tomorrow ask the board for authority to begin a campaign of publicity against the spread of the disease.

One veterinarian in Minneapolis last month treated twenty-five cases of rabid dogs, and during the first six months of the year there were 157 persons registered from the twin cities and adjoining territory for Pasteur treatment at the laboratory.—*Minneapolis* (*Minn.*) *Jour.*

THE CHARBON SITUATION

A few months ago a mule belonging to M. B. Cole died of anthrax, and on June 1 his cow died suddenly. A negro skinned her while warm, within sixty yards of my house. There was no swelling. The blood was very black and did not coagulate. I hauled the carcass across the public road in the direction she had come from a few minutes before. The carcass was eaten by hogs, forty of which died. D. C. Turner's mule was driven along this road. The next day it developed high fever and a swelling and choked to death. On June 6 my mule developed a swelling and died in about forty minutes. Next a cow kept within a few feet of the same place died. It was swelled and discharged blood from the bowels in slight quantities. On June 8 another cow belonging to Walter Jones developed similar symptoms and died. A horse that was in the same neighborhood is sick and has a swelling on his jaw. Another horse that passed by the place died in thirty hours. Half a mile west of the place a cow died in a pasture. Dogs and buzzards that ate of the carcass were not affected, indicating that they were immune. I have been in charbon districts, but Dr. Yolts of Beaumont taught me as much about charbon as I learned in the forty-five years. Had I met him a few days sooner I would not have lost my mule. I think the flies spread the disease. Two other animals died, of whose death I do not know the particulars.—J. C. JONES.

DESTROY DOGS FOR CITY

Members of the Society for the Prevention of Cruelty to Animals and others interested in the care and disposition of animals in general and dogs in particular, will no doubt find consolation in the order issued yesterday by Mayor W. S. Jordan, in which the chief magistrate of the city directed James M. Frazee to refrain from shooting unclaimed canines impounded by the city and outlining a more painless method for their destruction.

Mayor Jordan immediately became interested and took the matter up with several local veterinary surgeons, with the result that three of them, Drs. Mahaffey, Spencer and Grace, have signified their willingness to kill all dogs impounded by the city and remaining unclaimed, by injecting into the main artery of their bodies a sufficient quantity of strychnine to produce death within thirty seconds. This new plan, while less painful to the animal, is also safer.—*Jacksonville* (Fla.) *Times-Union.*

VETERINARIANS IN SESSION

The first session of the joint meeting of the California State Veterinary Medical Association and its Southern Auxiliary was held in the San Francisco Veterinary College, 1818 Market Street.

The morning and afternoon were occupied with the reading of scientific papers by Dr. R. A. Archibald, Dr. E. J. Creely, Dr. F. E. Commins, Dr. F. H. Guldager, Dr. Charles Keane, Dr. M. J. O'Rourke and Dr. A. W. Small. In the evening the delegates were given a banquet at the St. Germain. Dr. Archibald presided. —

—*San Francisco* (Cal.) *Examiner.*

VETERINARY GRADUATES BEFORE EXAMINERS

At a meeting of the State Veterinary Board just held, the following officers were elected: President, Dr. J. W. Scheibler, Memphis; vice-president, Dr. F. R. Young, Lebanon; treasurer, Dr. A. C. Topmiller, Murfreesboro; secretary, M. Jacob, Knoxville.

Following routine business the following graduates were licensed to practise in Tennessee: Robert H. Smith, Sweetwater, graduate of the Indiana Veterinary College; James M. Jones, Lewisburg, graduate of the McKillip Veterinary College; A. C. Misner, Union City, graduate of the Terre Haute Veterinary College; Floyd D. Whitaker, Nashville, graduate of the United States College of Veterinary Surgeons; Paul J. Landes, Nashville, graduate of the United States College Veterinary Surgeons.

—*Nashville* (Tenn.) *Banner.*

NEW VETERINARY COLLEGE PLANNED

The State Board of Veterinary Examiners at its recent meeting examined seventeen applicants, graduates of veterinary schools of other States,

in the Senate chamber. The Board will petition the next Legislature, it is expected, to establish a veterinary department at the Agricultural and Mechanical College of Texas.

Those taking the examination were M. Hobdy, T. O. Clark, R. C. Dunn, J. L. Hearn, F. S. Molt, W. R. Rodgers, W. F. Hayes, J. A. Holzman, C. A. Hazard, P. O. Kato, I. D. Jackson, S. V. Ewers, J. W. Howse, F. E. Wellfare, S. R. Wilkins and N. G. Legear.

The Board includes T. W. Watson, Austin, president; F. G. Cook, Paris, secretary-treasurer; W. A. Knight of Houston, A. E. Flowers of Dallas, C. C. Parker of San Angelo, J. W. Burby of San Antonio, and S. J. Swift of Austin.

—*Dallas* (Tex.) *News.*

CAROLINA VETERINARIANS ELECT OFFICERS

The North Carolina Veterinary Medical Association has adjourned a two-days' session at Raleigh to meet in Salisbury in July, 1913. Officers for the next year are: Dr. L. F. Koonce of Raleigh, president; Dr. J. P. Spoon, Burlington, vice-president; Dr. W. A. Hornaday, Burlington, secretary, and Dr. T. N. Spencer, Concord, treasurer. Dr. G. A. Roberts and Dr. T. W. Spencer were recommended to Governor Kitchin for appointment as members of the State Board of Examiners. The Board this time licensed four new veterinary surgeons, T. W. Wood, Greensboro; T. N. Groves, Virginia; H. H. Parker, Gastonia, and B. T. Simms, Raleigh.

The Association is preaching the gospel of sanitation quite effectively in its efforts to have cattle stables and the care of milk managed in the most sanitary manner and members of the Association are cooperating with boards of health and the authorities generally in every effort to improve conditions.—*Norfolk* (Va.) *Pilot.*

TEXAS VETERINARY LAW VALID

The Court of Criminal Appeals upheld the constitutionality of the law which created the State Board of Veterinary Medical Examiners, in affirming a $25 fine against Henry Pistole of Dallas, recently. Pistole was convicted of practising the profession of a veterinarian without a certificate from the State Board. In passing on the validity of the act, Associate Judge Prendergast writes: "The act, like many others when the subject is first legislated upon, may be crude in some of its provisions. It is evident that in some sections of the act, some word or words are omitted, but if so, the act is thereby in no way made invalid."

—*Austin* (Tex.) *Statesman.*

DEATH CHAIR FOR BEASTS

Animals to be Put to Death Like Murderers

A death chair in which animals will be dispatched by the same methods used in the electrocution of murderers will be established by Dr. R. D. Earle, a veterinary surgeon. Dr. Earle is called on to end the sufferings of upward of 300 pets annually, principally cats and dogs. After much experimenting he is convinced that electrocution is the most humane method of killing them.

Doctor Earle says that while only the most despised of men are electrocuted, the reverse would be true in the case of animals. In electrocuting a dog an electrode will be placed on a wet sponge at the back of the animal's neck, the wire running along the spinal column to the tip of the tail. A current of greater voltage than that used in the Charlestown state prison would result in instantaneous and painless death, he says.

Doctor Earle has made arrangements with the municipal lighting plant for the current. Doctor Earle had previously employed cyanide of potassium.—*Associated Press.*

A REMARKABLE MAN

Those who saw Dr. John Shiffert recently, attending to his veterinary practice, would not judge that he was celebrating his 88th birthday. But that was the case.

—*Chambersburg* (Pa.) *Public Opinion.*

A FORMER UTICAN

Dr. E. H. Pritchard, a former resident of this city, died in Indianapolis, Ind., and the *Indianapolis News* had the following account:

"Dr. E. H. Pritchard is survived by a widow and two sons, Dr. J. E. Pritchard of this city and Dr. M. H. Pritchard of Chicago. Death was due to diabetes. For the last nine months he had been confined to his home.

"Evan Hughes Pritchard was born at Caernayon, Wales, February 20, 1842, and came to this country when 14 years old, settling with his parents at Utica, N. Y. He studied medicine and was in regular practice four years, after which he took up veterinary surgery, which became his life vocation. From Utica he went to Wisconsin, where he lived for several years. Forty years ago he came to Indianapolis, which had since that time been his home. He was a Democrat and took much interest in local politics.

"For four years he was state veterinarian, for 19 years city veterinarian, and for two years inspector of foods at the east market house.

He had for several years been a member of the faculty of the Indiana Veterinary College."

—*Utica* (N. Y.) *Dispatch.*

VETERINARY surgeons are making an effective appeal to be placed on an equal footing. A few were inadvertently shut out under the act of 1908, although eligible to come in. Their bill only opens the way for their admission, and no others. Messrs. Sevin and Helwig, with their attorney, Loys Charbonnet, are here now, and make this appeal.

—*New Orleans* (La.) *Pleayuna.*

DR. O. T. AMYRAULD, a veterinary surgeon, who for several years has been practising in Provo, has moved his family to Ogden, where he will locate. He has established headquarters at the Red Front livery. Prior to coming to Utah, Doctor Amyrauld was a resident of New York.

—*Ogden* (Utah) *Examiner.*

DR. J. J. MOORE, the local veterinarian, received painful injuries recently. He was about to operate on a young colt at F. O. Spurrier's farm, south of town, and had the animal, as he thought, roped down securely. Just as he was about to start the operation the animal made a lunge and struck the doctor in the face with its foot, making

a large gash above the left eye and a smaller bruise on the side of the nose.—*Chicago* (Ill.) *Tribune.*

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A cow at the farm of Joe Miller in Glenover began acting queerly recently and Veterinarian Doctor DoRan was called. She became violent, and Doctors Stewart, Roe and Curry were called, but were unable to do anything with her. She was finally shot after she had knocked her horns off and done herself considerable damage. There have been several mad-dog scares in this neighborhood, and it is the opinion of Doctor DoRan that the cow was affected with rabies.

—*Beatrice* (Neb.) *Sun.*

—

Dr. L. F. Koonce awarded contract to D. C. Hill, Raleigh, to erect proposed veterinary hospital; mill construction; Carey's composition roofing; cost $4500; plans by Frank B. Simpson, Raleigh.

—*Mfg. Rec. Balti. Md.*

—

Dr. A. C. Donahue, a veterinary surgeon of Boonville, was thrown from his buggy lately, and one of his legs were fractured.

—*Rustler*, Slater, Mo.

—

Dr. W. A. Fry, who has been connected with the Bureau of Animal Industry of the Government, for twelve years, has resigned his position, and will locate here. He intends to open a veterinary hospital, although the plans have not proceeded far enough to make any definite announcement. Doctor Fry has been engaged in the tick-eradication service for the last six years, during which time he made his headquarters at Rogers.

—*Fort Smith* (Ark.) *Record.*

—

Six graduates of the United States College of Veterinary Surgeons received the degree of Doctor of Veterinary Science at commencement exercises held recently in the main lecture hall of the college.

—*Washington* (D. C.) *Statesman.*

—

Doctors Watts and Hylton succeed Dr. F. W. Culver as veterinarians in Longmont, and Doctor Culver will become a farmer. They are yound men of experience and will doubtless have plenty to do. Their office will be at Culver's barn.

—*Ledger*, Longmont, Colo.

—

Hog cholera is epizootic in Georgia, particularly in South Georgia, states Dr. Peter F. Bahnsen, State veterinarian, and since January 1 something like 60 percent of the hogs in the State have died as a result of it.

Dr. Bahnsen states the loss to Georgia will be tremendous. It is more serious this year than has been known in a long time. Some idea of the extent of the loss may be had from a statement made at the Capitol recently by E. J. Young, of Ocilla, who said that one farmer in Irwin county has lost no less than $10,000 worth of hogs from cholera this year.—*Atlanta* (Ga.) *Constitution.*

—

Dr. Fred Zimmer, assistant State veterinarian, and Miss Nellie Young, daughter of Valentine Young, hotel proprietor at Reynoldsburg, will be married, according to announcements just out. They will reside on Oak Street. Doctor Zimmer has been employed by the State for nearly four years. His home is in Williamsburg, Clermont county.—*Columbus* (O.) *Dispatch.*

The City Health Department will obtain the services of a veterinary surgeon, to be sent here by the State Board of Health, to assist in the work of inspecting the cows of dairymen and those who sell dairy products, according to Commissioner of Health R. H. Flinn.—*Hutchinson* (Kan.) *News.*

—

From Ellendale, a small town a few miles south of Milford, comes the report that a strange disease, which is baffling the skill of the veterinary surgeons, is affecting many of the horses in that section. According to the report the animals are affected in the throat and breathing organs and unless some medical attention is given at once the animal suffocates.—*Wilmington* (Del.) *News.*

—

Dr. David Ryder, the veterinary surgeon, will take as a partner Dr. Beatie, of the University of Pennsylvania. Dr. Beatie is a silver-medal winner by his work in the University of Pennsylvania.

—*Chambersburg* (Pa.) *Depositor.*

—

At the annual meeting of the Northwestern Ohio Veterinary Medical Association held at the Boody House, Dr. J. V. Newton was elected president; Dr. B. C. Eldredge, of Swanton, vice-president; and Dr. E. V. Hover, of Delphos, secretary and treasurer.—*Toledo* (Ohio) *Blade.*

—

Dr. L. V. Newman, the veterinarian, has bought out the practice of Dr. Cline of York and will move there this week.—*Waukegan* (Ill.) *Gaz.*

—

Dr. C. B. Simmons, a veterinary surgeon of Washington, D. C., has located in Aberdeen. He spent some time looking over the country, for a place and Aberdeen, to his eyes, is the best in the West.—*Aberdeen* (S. D.) *American.*

—

Dr. John Bennett, the veterinarian, died at his home in Tyrone, of tuberculosis. The body was taken to Hamburg, Berks county, where the funeral services were held and interment made.

—*Altoona* (Pa.) *Mirror.*

—

The deputy state veterinarians who, since February 1, last, have been examining dairy herds in the vicinity for tuberculosis, expect to complete their work here soon. Of 6000 cows tested by the veterinarians, 400 have been condemned.

—*St. Joseph* (Mo.) *News-Press.*

—

Albert Truman, 21 years old, veterinary surgeon, residing two miles north of Elmore, died recently of consumption. He is survived by his parents and several brothers and sisters.—*Toledo* (O.) *Blade.*

—

Dr. Frank J. Loomis, city veterinarian, is confined to his home with an attack of grip. During his absence the meat inspection at the city hall is being done by A. N. Whipple of Adams, a state meat inspector.—*Watertown* (N. Y.) *Times.*

—

Dr. George R. White, State live-stock inspector, has been appointed official veterinarian for the State Fair.—*Nashville* (Tenn.) *Banner.*

—

Anacortes is to have a veterinary hospital. Dr. N. H. Hansen, the veterinarian of this city, is making arrangements to build and equip one of the most complete institutions of its kind in this part of the State, and this will be welcome news to

farmers and other owners of stock and domestic animals needing veterinary care.
—*Anacortes* (Wash.) *American.*

—

DR. C. A. GUERNEA, veterinarian, who has served as Government inspector at Chicago U. S. Yards, has located in Port Byron and will look after the wants of those who wish a graduate veterinarian.—*Post,* Hillsdale, Ill.

—

COMMISSIONER of Agriculture Blakeslee has received notice of the existence of a strange disease which is killing cattle in large numbers in the vicinity of Bolton, this county.

The disease is unknown to Commissioner Blakeslee, and he has referred the matter with symptoms to the State veterinarian, who has called a meeting of veterinarians to be held at Bolton, when E. M. Ranck, of A. & M. College; Drs. Hecker and Tinn of the State veterinarians, and Dr. J. A. Camon, of the United States veterinarians, will attempt a diagnosis of the disease and apply the remedy.
—*Memphis* (Tenn.) *Com. Appeal.*

—

DR. NED ALLIS, the Wyalusing veterinarian, was kicked on the left arm by a horse which he was attending in Dushore. Both bones were broken between the wrist and elbow. —*Wilkesbarre* (Pa.) *Record.*

—

NO LITTLE interest centers in the hearing of the motion of Attorney H. L. Erckmann before Judge Memminger for an injunction, restraining the Health Department from carrying out its order to close thirty-odd dairies in Charleston, S. C., on grounds of being health nuisances.
—*Augusta* (Ga.) *Chronicle.*

—

THE conditions at the slaughter-houses in the southern part of San Francisco, Cal., are described as very offensive in a report which was presented recently at a conference of health officials in Mayor Rolph's office. This conference was called by the Mayor on account of the meat controversy between the Board of Health of San Francisco and the Health Department of Oakland.

At the meeting Dr. Edward N. Ewer and Dr. R. A. Archibald, respectively health officer and market and food inspector of Oakland, were present, and they presented a strong indictment of meat inspection as carried on in San Francisco in telling why a ban was put by the Oakland health officials on meat from this side of the bay.
—*San Francisco* (Cal.) *Chron.*

—

DR. R. F. BOURNE, physiologist of the Kansas City Veterinary College, and family, spent a four-week vacation period in Wyoming the past summer.

—

DR. F. A. Barber, graduate of the Kansas City Veterinary College, has located here.—*Westmoreland* (Kan.) *Recorder.*

—

ACTING under orders from Dr. Gibson, state veterinarian, Drs. Kelso of Corydon, and C. E. Stuart of Charlton, assistant state veterinarians, gave the tuberculin test to fifty cows in the Milnes dairy herd this week and but six of the fifty were found free from tuberculosis. The result of the test has greatly agitated the community and as a result many private individuals will have their cows tested.—*Creston* (Ia.) *American.*

THE marriage of Miss Winnifred Robertson to Dr. C. A. Nelson was solemnized, last evening. Miss Robertson is one of St. Cloud's popular young ladies. Doctor Nelson is a prosperous veterinary surgeon at Brainerd, at which place the new couple will reside in the future. Last evening Dr. and Mrs. Nelson left for Duluth, where they will spend a few weeks on the great lakes, following which they will return to their homes at Brainerd.—*Journal-Press,* St. Cloud, Minn.

—

COMPLAINTS were filed by County Attorney McGirr against H. W. Williams, William I. Page and T. W. Wildman of Wymore and Earl Robertson of Beatrice, Nebraska, charging them with practising veterinary medicine and surgery without a license, contrary to state law.

Robertson was arrested and his case was set for hearing Wednesday.—*St. Joseph* (Mo.) *News-Press.*

—

ACTING under instructions from the Kentucky Humane Society, Veterinarian Harthill made an examination of horses used by mail collectors, employed by the Government. The veterinarian found six of the animals unfit for service, and ordered their removal. The matter was taken up with the First Assistant Postmaster General at Washington. It was said that the collectors, who provide their own horses for the service, were unable to give them the proper care and feeding because of the small allowance Uncle Sam makes for this purpose.—*Louisville* (Ky.) *Herald.*

—

CONTRARY to expectation, there were no candidates for examination as veterinarians when the State Board of Veterinarians met in the Clayton House recently. Those present were Dr. J. R. Mahaffy and Dr. H. P. Eves of this city and Dr. J. R. Kuhns of Dover.—*Wilmington* (Del.) *Evening.*

—

DR. H. L. Casey has applied the tuberculin test to hundreds of cattle near Danville and to date has found only one to be infected. All the dairy herds have been inspected.—*Louisville* (Ky.) *Times.*

—

THE report for June of Dr. W. J. Treman, city veterinarian, just submitted to Mayor Samuel C. Park, shows a total of 5,174 ante-mortem inspections, of which five were rejected and 5 169 post mortem inspections, of which 30 were retained. During the month a total of 55,370 pounds of meat products was inspected.—*Salt Lake* (Utah) *Herald.*

—

DR. W. P. Divelbiss received notice from the secretary of the state board of Veterinary Examiners to the effect that he had passed the required examination for veterinaries in this state.—*Aberdeen* (S. D.) *American.*

—

DR. E. ARTHUR DEAN of Guthrie, one of the youngest veterinary surgeons in the state, has just been notified that he has been selected as teacher of veterinary art in the University of South Carolina.—*Oklahoma City* (Okla.) *Oklahoman.*

ONE WAY TO KILL A HORSE

An exchange from Puyallup, Wash., the home of Ezra Meeker, of Oregon trail fame, tells how the old man had a narrow escape from death recently, all because he is tender-hearted.

A horse that for thirty years had been a faithful farm animal on Meeker's ranch was in a precarious

condition. Meeker decided to destroy the horse painlessly. He went to town and bought two sticks of dynamite, caps, and a bit of fuse.

He tied the explosive to the horse's neck, inserted the caps, and attached the fuse. When all was ready the fuse was lighted and Meeker ran for the orchard, 100 yards away, as fast as his 79 years would permit.

The old man had not gone far when, hearing a noise behind, he turned to behold the old horse following him at a brisk trot. The animal was frightened at the sizzling fuse dangling from its neck and sought protection at the hands of Meeker.

Meeker realized his danger and ran faster. A barbed wire fence separated the orchard from the pasture and this the old man hurdled like a deer. The horse stopped at the fence and then something happened.

The farmer, with his clothes in shreds, found himself in an apple tree. The old horse had vanished, as had about fifty yards of the wire fence.

—*Spirit of the West.*

DR. C. R. WALTER, Tulsa, Oklahoma, announces to his friends and clients the opening of the City Veterinary Hospital located at Second Street and Denver Avenue. The building —just completed— is modern throughout, being furnished with the very latest equipment, an equine operating table, soaking tub, stocks, padded colic stall, kennels for dogs, and so forth. Visitors always welcome.

VETERINARIANS MEET

A business meeting of the Nebraska Veterinary Medical Association was held at the University Farm, on the call of President J. O. Sprague. Thirty-six members were in attendance. The meeting discussed legislation desired in the interest of veterinarians, and committees were appointed to look after the measures they want.

—*Lincoln* (Neb.) *Star.*

ONLY THE BELLBOY'S JOKE

"The doghouse," shouted a bellman at the Congress Hotel last evening to the key clerk, in asking for the key to the room he was taking a guest to.

"Hold on, there," demanded the guest—Henry Valkenstein of New York—"what's this doghouse mean? Think I am an animal?"

"That's all right," said Clerk John Burke. "It's only a nickname the boys have for the room I gave you, which was K-9."

"Oh, I see," smiled the guest, "K-9—canine, good joke on me, eh?"—*Chicago Daily News.*

HORSES DYING

Many in Hart County Succumb to Fatal Malady

A strange disease has attacked the horses of Hart and some of the adjoining counties and reports from that section are that many are dying and that the situation is becoming serious with the farmers. In many cases entire teams have been lost and others are losing the use of the animals during the good farming weather. Some few recover from the disease, which is believed by many to be contagious, owing to the large number afflicted.—*Louisville* (Ky.) *Courier-Journal.*

INCREASE OF GLANDERS

EDITOR *Brooklyn Daily Eagle*:

Your article in *The Eagle* of May 5 under the heading "Glanders Spreads; Now an Epidemic," touches a subject of vital importance to the city of Brooklyn.

During a professional career covering thirty-five years in this city, and while holding federal, state, and local government appointments for the stamping out of contagious diseases, I never have known glanders in horses to be so prevalent as it is today in the city of Brooklyn.

I quote Dr. Maxfield of the Health Department, who gave said interview. "Glanders or farcy, a disease of a highly contagious character and fatal to horses as well as humans, is dangerously on the increase despite all efforts of the Department of Health to check it. Our two veterinarians are constantly on the go, and the utmost precautions are taken to stamp out, or at least check this fatal disease."

From the statistics prepared by Dr. Maxwell, it would seem that the department veterinarians are on the go in the wrong direction and will never catch up with, much less stamp out, this scourge. The methods used by the Health and State Departments are insufficient and unprofessional, hence the increase of the disease.

Assuming that the inspecting veterinarians of the staff thoroughly understand and appreciate every period of the disease, the present careless method of treatment in a stable harboring even one case is criminal. The destruction of one animal known to be a victim of glanders is but one step in the

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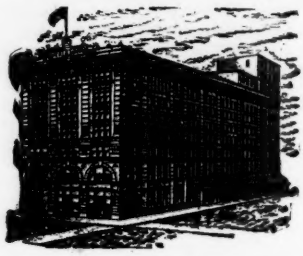

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stamping out process, for the following reason: The life history of the disease shows three distinct periods, i. e., the latent period, of indefinite duration, in other words, the period when the animal is an actual medium of contagion and would react to the Mallein test, though showing no clinical symptoms.

The incubative period, of from two to three weeks duration, with general symptoms, being an apparently unwell animal, with abnormal temperature, but without disclosing clinical symptoms. The special appointing period, with clinical symptoms, such as are apparent to the ordinary horseman without disclosing to him the actual character of the disease, which may not and generally does not end in the death of the animal for a long period of time.

Dr. Maxfield quotes one stable containing fifty horses affected, resulting in their destruction. I could quote a few more tripling that number.

This of itself is proof positive of the failure of the Department of Health during the past twelve years to stamp out this equine scourge. It is time that the owners of horses in this city should become cognizant of the laxity of the Board of Health and demand better results for the money they pay to that department.

I am prepared to substantiate my allegations before a competent authority that the system employed by the Health and State Departments in dealing with glanders is more conducive to the propogation than the stamping out of this disease.

I invite them to accept this challenge.

L. McLEAN, M.R.C.V.S.

Brooklyn, May 20, 1912.

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Gentlemen: I have given the Cozy Cab a two weeks' trial and find it O. K. in every respect. I have been in practice for ten years and have never had so much real comfort as the past two weeks while using the Cozy Cab. I recommend it to anyone who has to face the elements three hundred and sixty-five days in the year. You may draw on my banker for the deposit at any time as I do not intend to return the Cab.

CHAS. W. BANDY, V. S.

Litchfield, Ill.

FINED FOR SHIPPING DISEASED COWS

STATE Veterinarian J. C. Marshall of Harrisburg, has received word that Aaron Schick, a cattle dealer at Lancaster, who was indicted by the United States Grand Jury at Philadelphia recently, pleaded guilty to the charge of shipping three diseased cows from Lancaster to Jersey City, N. J., and was fined one hundred dollars.

—*Lebanon* (Pa.) *News.*

SOCIETY-LOVING DOCTOR TRICKETT

During the absence of Dr. A. Trickett, a veterinary surgeon, from his home, 1511 McGee street, the house was entered and a diamond ring, a band ring and two diamond stick pins were taken.

—*Kansas City* (Mo.) *Journal.*

What is the formula for Tuttle's Elixir? Giles' Magic Lotion and Blood Purifier?

C. H. INHOLZ.

Benton Harbor, Mich.

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